

Mr. Jeffrey Crawford
Rhode Island Department of Environmental Management
Office of Waste Management
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Subject:

October 2015 Quarterly Monitoring Report for Springfield Street School Complex

ENVIRONMENTAL

Dear Mr. Crawford:

Date:

November 11, 2015

ARCADIS US, Inc. (ARCADIS) conducted quarterly monitoring of soil gas, indoor air, the cap, and the sub-slab ventilation system between October 26th, 2015 and October 30th, 2015. The monitoring was performed in accordance with the *Long-Term Operation and Maintenance Plan and Site Contingency Plan (O&M Plan)* contained in the *Remedial Action Work Plan* prepared by ATC dated April 2, 1999, revised May 3, 1999 and May 9, 1999. The *Remedial Action Work Plan (RAWP)* was approved by the Rhode Island Department of Environmental Management (RIDEM) in a letter dated June 4, 1999.

Contact:

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This work is subject to the Limitations contained in Attachment A. Results of monitoring are provided in the following sections and in the attachments.

Our ref:

WK012152.0010

COVER MONITORING

ARCADIS conducted a visual survey of the site on October 29th, 2015 for evidence of significant soil cover erosion, or for any areas of settling and depression.

The orange indicator barrier was not observed during the inspection, and there was no evidence of significant settling or cover erosion in need of repair.

SUB-SLAB VENTILATION SYSTEM

Field Monitoring

The sub-slab ventilation system was inspected by ARCADIS during the quarterly monitoring on October 28th, 2015. The two elementary school blowers and one of the two middle school blowers were operating normally upon arrival. The second middle school blower, middle school back, was not operating normally due to an unknown issue. ARCADIS previously determined that the motor and blower would need repair.

Samples of influent and effluent (before and after the carbon canisters) air were collected at each functioning blower and screened for methane, carbon dioxide, oxygen, carbon monoxide, hydrogen sulfide, and organic vapors using a Landtec GEM5000 Plus and a MiniRae 2000. Results of screening are provided in Table 1. Methane, carbon monoxide, hydrogen sulfide and organic vapors were not detected in any of the samples. Carbon dioxide was detected at concentrations of 0.4, 0.6, and 0.5% for the elementary school blowers and 0.3 and 0.2% for the middle school blowers; all the sample concentrations were greater than the RAWP Action Level of 1000 ppm (0.1%).

Soil Gas Laboratory Results

Sub-slab soil gas samples were collected from the influent to each functioning sub-slab ventilation system. The samples were collected in Tedlar bags and submitted to Con-Test Analytical Laboratories for analysis of volatile organic compounds (VOCs) by EPA method TO-14. Results of the analysis are summarized in Table 2, and the laboratory report is provided in Attachment B.

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) and CT DEEP Proposed Residential Volatilization Criteria for Soil Vapor are provided in Table 2 for comparison purposes. The OSHA PELs are not directly applicable to soil gas, because it does not represent exposure point concentrations. The PELs are the average concentrations that OSHA allows to be present in a workplace without any respiratory protection or exposure controls. The concentrations detected in soil gas were well below the OSHA PELs and the CT DEEP Proposed Residential Volatilization Criteria.

INDOOR AIR MONITORING

Indoor air monitoring was conducted on October 29th, 2015 using a Landtec GEM 5000 Plus meter (methane, hydrogen sulfide, oxygen), a Mini Rae photoionization detector (organic vapors), and a Fluke 975 Airmeter (carbon dioxide, carbon monoxide). School was in session during the monitoring event. Results of monitoring are provided in Table 3. Carbon dioxide measurements were made with a Fluke 975 Airmeter indoor air quality meter. The Fluke 975 has a range of 0 to 5,000 ppm, with a resolution of 1 ppm.

The outside temperature on October 29th, 2015 was approximately 75°F and ambient carbon dioxide was measured at 435 ppm.

All readings were below the RAWP Action Levels. Methane, carbon monoxide, organic vapor, and hydrogen sulfide were not detected. Carbon dioxide was detected

at concentrations between 498 and 789 ppm. As noted below, these readings are within the expected range for indoor air levels of carbon dioxide in an occupied building.

Concentrations of carbon dioxide inside occupied buildings are expected to be higher than the concentrations in outdoor air because the building occupants expel carbon dioxide. Therefore, in indoor air, the concentration of carbon dioxide is typically used as an indicator of the effectiveness of the heating, ventilating, and air conditioning (HVAC) system in circulating outdoor air into the building. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) have prepared ASHRAE Standard 62.1-2007 titled *Ventilation for Acceptable Indoor Air Quality*. The purpose of the Standard is to specify minimum ventilation rates and other measures to provide indoor air quality that is acceptable to human occupants and that minimize adverse health effects. A discussion regarding carbon dioxide concentrations in indoor air contained in Informative Appendix C of the Standard states: "... maintaining a steady-state CO₂ concentration in a space of no greater than about 700 ppm above outdoor air levels will indicate that a substantial majority of visitors entering a space will be satisfied with respect to human bioeffluents (body odor)." This is the basis for ASHRAE's recommendations for concentrations of carbon dioxide in indoor air.

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for carbon dioxide in the workplace is 5,000 ppm. All readings were below this concentration.

The control panels for the methane monitors at both schools were inspected on October 29, 2015. The methane monitor control panels had stickers that indicated that the monitors were calibrated by Diamond Technical Services within the month prior to the inspection. Diamond Technical Services calibrates the sensors on a monthly basis.

Calibration Certificates from Diamond Calibration indicate that many of the sensors read above 0 when calibrated to the zero gas. This prevents the sensors from giving a fault alarm if the reading drops below zero due to a sudden temperature change, and still provides a conservative measure of protection because the alarm limit does not change.

GROUNDWATER MONITORING

The groundwater monitoring wells were sampled by ARCADIS on October 28, 2015. Prior to sampling, the depth to water was gauged, and a volume of water equivalent to approximately three well volumes was removed from the well. Groundwater

samples were collected in laboratory prepared sample jars and delivered under chain-of-custody protocol to Contest Laboratory in East Longmeadow, Massachusetts for analysis for volatile organic compounds by EPA method 8260. During the sampling period, MW-6 and MW-8 were discovered dry and unable to be sampled. The laboratory report is provided as Attachment B. Results of analysis of groundwater samples are summarized in Table 4.

The only well in which target analytes were detected was ATC-4, which had 1.2 µg/L of chlorobenzene and 1.8 µg/L of 1,4-dichlorobenzene. The RIDEM GB groundwater objective for chlorobenzene is 70µg/L. There is no GB groundwater standard for 1,4 dichlorobenzene. 1,4 dichlorobenzene has been detected during previous sampling events at a similar concentrations. No other target analytes were detected in any of the groundwater samples collected on October 29, 2015.

SOIL GAS MONITORING

Soil gas monitoring was conducted at 23 locations on October 28 and 29, 2015. The sampling was conducted by placing an air sampling gripper cap on each well and attaching a piece of tubing. A volume of air equivalent to approximately 3 well volumes was removed from each well using a Sensidyne BDXII air sampling pump. Soil gas was then screened using a Landtec GEM 5000 Plus Landfill Gas Analyzer and a MiniRae Photoionization Detector (PID).

Soil Gas Field Monitoring Results

Soil gas samples were screened for methane, carbon monoxide, hydrogen sulfide, carbon dioxide, oxygen, and total VOCs. During the screening, wells WB-1, WB-4, WB-6, WB-7 were found to be damaged and were not tested. Wells WB-2 and WB-13 were unable to be located and were also not tested. Soil gas survey results are provided in Table 5. Methane, Carbon monoxide, hydrogen sulfide, and total VOCs were not detected in any samples.

Carbon dioxide was detected in soil gas at concentrations ranging from 0.1% to 11.7% during the October monitoring event. The carbon dioxide RAWP action level of 0.1% was exceeded at every monitoring point. The maximum concentration detected during the October 2015 monitoring round was 11.7%, which was lower than the maximum detected during the June 2015 round of 11.9%. This is consistent with the pattern shown during previous rounds of declining carbon dioxide concentrations in the winter, and increasing concentrations in the summer and early fall. Graphs depicting carbon dioxide, oxygen, and methane concentrations over time for selected representative wells are presented in Attachment C.

The presence of carbon dioxide in soil gas is an indicator of subsurface bacterial activity and does not represent a threat to users of the property. The highest concentration of carbon dioxide was found in well MPL-6, located on the northern end of the property near Hartford Avenue. The monitoring locations on the northern end of the property adjacent to large expanses of paved parking lot, sidewalk, and streets have typically had the highest carbon dioxide concentrations.

VACUUM TESTING

Vacuum testing was conducted on October 28th-29th, 2015 to confirm negative pressure in the soil gas around the occupied buildings. The measurements are performed to assess whether the sub-slab ventilation system is functioning as designed. The testing confirmed the sub-slab ventilation system is performing as designed. Vacuum testing results may be found in Figure 1.

CONCLUSIONS

Methane, hydrogen sulfide, carbon monoxide and organic vapor concentrations did not exceed RAWP action levels in any soil gas or indoor air samples in this quarterly round of sampling. Carbon dioxide concentrations exceeded the action level at 20 soil gas locations and sub slab system monitoring points. The detection of carbon dioxide in soil gas is typical of what has been detected during previous monitoring events and appears to be a result of naturally occurring bacterial activity in the subsurface.

If you have any questions or require any additional information, please contact the undersigned at 401-738-3887, extension 25.

Sincerely,

ARCADIS U.S., Inc.



Donna H. Pallister, PE, LSP
Senior Environmental Engineer

Copies:

A. Sepe, City of Providence
Providence Public Building Authority

Tables

Table 1
 System Monitoring Notes
 Springfield Street School Complex
 Providence, Rhode Island
 10/28/15

Monitoring Location	Methane % by volume Landtec	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Elementary School inlet 1	0	0.4	20.2	0	0	0.0
Elementary School inlet 2	0	0.6	19.8	0	0	0.0
Elementary School Outlet	0	0.5	20.5	0	0	0.0
Middle School front shed inlet *	0	0.3	21.0	0	0	0.0
Middle School front shed after 2 nd carbon *	0	0.2	21.2	0	0	0.0
Middle School back shed inlet #	NT	NT	NT	NT	NT	NT
Middle School back shed after 2 nd carbon #	NT	NT	NT	NT	NT	NT
Remedial Action Work Plan Action Levels	0.5	1,000 ppm (0.1%)	NA	9 ppm	10 ppm	5 ppm

Measurements made with: Landtec GEM5000 Plus, MiniRae 2000

Sampling date: 10/28/15

Measured by: Kristen Audette, Miguel Cardozo

*- Tested on

#- Middle school back shed not tested because blower not functioning properly

Table 2
Soil Gas Samples Collected from System Influent
Springfield Street School Complex

Parameter	Sample Date	CT DEEP Proposed Residential Volatilization Criteria For Soil Vapor (ug/m3)*	OSHA PELs (ug/m3)	Middle School Back (ug/m3)	Middle School Front (ug/m3)	Elementary School #1 (ug/m3)	Elementary School #2 (ug/m3)
Benzene	6/10/14 and 7/01/14	3,247	3,000	0.42	0.52	0.45	ND
	9/19/14 and 9/23/14			NT	0.53	0.7	0.57
	12/19/2014			NT	0.93	0.63	0.67
	5/11/2015			NT	0.43	0.49	0.61
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	0.35
Carbon Tetrachloride	6/10/14 and 7/01/14	6,395	62,900	0.46	0.68	ND	ND
	9/19/14 and 9/23/14			NT	ND	ND	ND
	12/19/2014			NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	ND
Chloroform	6/10/14 and 7/01/14	22,334	240,000	0.46	ND	1.9	1.9
	9/19/14 and 9/23/14			NT	ND	2.2	2.2
	12/19/2014			NT	ND	1	1.1
	5/11/2015			NT	ND	0.85	1.1
	6/16/2015			NT	ND	1.5	1.5
	10/27/2015			NT	ND	1.3	1.6
Chloromethane	6/10/14 and 7/01/14	NA	207,000	1.2	ND	ND	ND
	9/19/14 and 9/23/14			NT	0.89	ND	ND
	12/19/2014			NT	1.20	ND	ND
	5/11/2015			NT	0.57	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	0.51	ND	ND
1,4-Dichlorobenzene	6/10/14 and 7/01/14	5,805,840	450,000	ND	ND	ND	ND
	9/19/14 and 9/23/14			ND	ND	ND	ND
	12/19/2014			NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	0.71	1	0.89
Dichlorodifluoromethane (Freon 12)	6/10/14 and 7/01/14	NA	4,950,000	4.6	6.9	4.1	4.1
	9/19/14 and 9/23/14			NT	38	3.8	3.9
	12/19/2014			NT	3.6	4.9	5
	5/11/2015			NT	3.00	4.1	3
	6/16/2015			NT	4.1	6.6	3.6
	10/27/2015			NT	3.7	4.2	7
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	6/10/14 and 7/01/14	NA	7,000,000	5.4	6.1	ND	0.91
	9/19/14 and 9/23/14			NT	24	2.0	2
	12/19/2014			NT	ND	1	0.98
	5/11/2015			NT	0.82	2.1	1.1
	6/16/2015			NT	2.5	8.2	1.2
	10/27/2015			NT	3.9	2.5	5.6
Ethylbenzene	6/10/14 and 7/01/14	7,281,812	435,000	0.29	0.52	ND	ND
	9/19/14 and 9/23/14			NT	ND	ND	ND
	12/19/2014			NT	ND	ND	ND
	5/11/2015			NT	2.80	2.5	3.9
	6/16/2015			NT	0.50	0.53	0.56
	10/27/2015			NT	ND	0.72	0.59
Methylene Chloride	6/10/14 and 7/01/14	4,237,289	86,750	6.2	12	11	11
	9/19/14 and 9/23/14			NT	6.7	23	20
	12/19/2014			NT	3.9	4.4	4.2
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	110	78	64
	10/27/2015			NT	21	30	8.4
Styrene	6/10/14 and 7/01/14	34,633	456,000	56	13	5.3	5
	9/19/14 and 9/23/14			NT	4.7	3.5	2.9
	12/19/2014			NT	5	2.7	2.5
	5/11/2015			NT	30	28	34
	6/16/2015			NT	1.7	1.5	1.7
	10/27/2015			NT	30	46	27
Tetrachloroethylene	6/10/14 and 7/01/14	75,840	678,000	3.2	5.6	3.3	4.2
	9/19/14 and 9/23/14			NT	3.6	100	13
	12/19/2014			NT	1.8	2.8	3.3
	5/11/2015			NT	15	11	3.7
	6/16/2015			NT	3.9	2.1	4.8
	10/27/2015			NT	1.6	2.6	32
Toluene	6/10/14 and 7/01/14	2,910,779	750,000	51	33	13	10
	9/19/14 and 9/23/14			NT	8.3	6.6	5.9
	12/19/2014			NT	54	20	22
	5/11/2015			NT	46	41	53
	6/16/2015			NT	5.7	4.7	6.2
	10/27/2015			NT	27	36	25
1,1,1-Trichloroethane	6/10/14 and 7/01/14	NA	1,900,000	NT	ND	ND	ND
	9/19/14 and 9/23/14			NT	ND	0.68	ND
	12/19/2014			NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	ND
Trichloroethylene	6/10/14 and 7/01/14	38,237	537,000	0.35	0.71	0.59	0.54
	9/19/14 and 9/23/14			NT	ND	1.7	0.84
	12/19/2014			NT	0.82	ND	1.2
	5/11/2015			NT	ND	1.5	ND
	6/16/2015			NT	ND	2.1	ND
	10/27/2015			NT	ND	ND	4.2
Trichlorofluoromethane (Freon 11)	6/10/14 and 7/01/14	NA	5,600,000	4	10	15	8.1
	9/19/14 and 9/23/14			NT	7.3	4.3	6.3
	12/19/2014			NT	5.0	3.1	4
	5/11/2015			NT	2.7	2.6	4.5
	6/16/2015			NT	2.3	2.9	2.6
	10/27/2015			NT	2.7	3.7	3.4
1,1,2-Trichloro-1,2,2-trifluoroethane(Freon 113)	6/10/14 and 7/01/14	NA	7,600,000	NT	ND	ND	ND
	9/19/14 and 9/23/14			NT	0.89	ND	ND
	12/19/2014			NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	ND
1,2,4-Trimethylbenzene	6/10/14 and 7/01/14	NA	125,000	0.35	ND	ND	ND
	9/19/14 and 9/23/14			NT	ND	ND	ND
	12/19/2014			NT	ND	ND	ND
	5/11/2015			NT	1.3	1.7	2.3
	6/16/2015			NT	1.6	1.5	1.5
	10/27/2015			NT	1.2	0.76	1.9
M/p-Xylene	6/10/14 and 7/01/14	2,215,755#	435,000	1.1	2.2	1.6	1.8
	9/19/14 and 9/23/14			NT	1.3	1.2	1.3
	12/19/2014			NT	0.96	0.89	ND
	5/11/2015			NT	18	17	25
	6/16/2015			NT	2.4	2.4	2.6
	10/27/2015			NT	1.3	2.7	2.4
o-Xylene	6/10/14 and 7/01/14	2,215,755#	435,000	0.66	1.1	0.84	0.83
	9/19/14 and 9/23/14			NT	0.55	0.63	0.74
	12/19/2014			NT	ND	ND	ND
	5/11/2015			NT	3.6	3.5	5.4
	6/16/2015			NT	1.4	1.3	1.3
	10/27/2015			NT	0.57	1.1	0.89

Notes:
Samples collected in Tedlar bags and analyzed via EPA method TO-14
Only detected compounds are listed, see laboratory certificate for complete list of analyses
OSHA PELs = Occupational Safety and Health Administration Permissible Exposure Limits
CT DEEP= Connecticut Department of Energy and Environmental Protection
ug/m3 = micrograms per cubic meter
* From Appendix F to Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies
Represents Total Xylenes
Results prior to June/July 2014 not shown.

Table 3
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, Rhode Island
10/29/15

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
E.S. Front office	0	597	20.7	0	0	0.4
E.S. Elevator	0	556	20.8	0	0	0.3
E.S. Faculty Work Room	0	677	20.7	0	0	0.4
E.S. Gym	0	587	20.7	0	0	0.5
E.S. Stairway B	0	665	20.7	0	0	0.4
E.S. Stairway C	0	620	20.7	0	0	0.4
E.S. Library	0	709	20.7	0	0	0.4
E.S. Front Stairs	0	572	20.8	0	0	0.4
E.S. Cafeteria	0	498	20.7	0	0	0.4
E.S. Mechanical Room	0	514	20.8	0	0	0.3

Table 3
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, Rhode Island
10/29/15

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Front Office	0	694	20.6	0	0	0.4
M.S. Elevator	0	606	20.7	0	0	0.3
M.S. Stairway near Elem. School GS-01	0	631	20.7	0	0	0.2
M.S. Near sensor #16 in hall outside cafeteria	0	684	20.6	0	0	0.2
M.S. Faculty Work Room	0	673	20.5	0	0	0.3
M.S. Sensor #15 Outside Gym	0	665	20.5	0	0	0.2
M.S. GS-03 Across from Boys Bathroom	0	671	20.6	0	0	0.3
M.S. Gym	0	789	20.5	0	0	0.3
M.S. Outside of Music Room	0	695	20.7	0	0	0.2
M.S. Cafeteria	0	594	20.6	0	0	0.3

Table 3
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, Rhode Island
10/29/15

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Front Hall near sensor #4	0	598	20.6	0	0	0.4
M.S. Hallway across from elevator near sensor #9	0	710	20.7	0	0	0.3
M.S. Near sensor GS 06 hallway right end	0	617	20.7	0	0	0.2
M.S. stairway near Hartford Ave. sensor GS-7	0	619	20.7	0	0	0.4
Remedial Action Work Plan Action Levels	0.0	1,000 ppm (0.1%)	NA	9 ppm	5 ppm	5 ppm

Notes: The indoor air quality monitoring panels in the M.S. and E.S. were calibrated on 10/22/2015.

E.S. indicates Elementary School, M.S. indicates Middle School

Measurements made with: MiniRae photoionization detector, Fluke 975 Airmeter, Landtec Gem 5000 Plus

PPM = Parts per million

Outdoor conditions: carbon dioxide = 435 ppm temperature = 75.2 degrees F

**Table 4
Groundwater Monitoring Results
Springfield Street School
Providence, Rhode Island**

Well ID	Detected Compounds	Sampling Dates and Results in ug/L						RIDEM GB Groundwater Objective
		6/10/2014	9/19/2014	12/18/2014	4/2/2015	6/15/2015	10/29/2015	
ATC-1	Chloromethane	ND	ND	ND	ND	4.1	ND	NA
ATC-2	Chloroform	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	
MW-6	Chloroform	2.1	4.1	ND	ND	ND	NS	NA
	Installed 4/2011							
ATC-3		Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	
MW-7		ND	ND	ND	ND	ND	ND	
	Installed 4/2011							
ATC-4	Chlorobenzene	ND	ND	ND	ND	ND	1.2	70
	1,4-dichlorobenzene	ND	2.0	1.2	ND	ND	1.8	NA
ATC-5		Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	
MW-8		ND	ND	ND	ND	ND	NS	
	Installed 4/2011							
	Sampled By:	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	

ND = not detected above method detection limit

NS = not sampled

NA = No applicable standard published

MTBE = Methyl tert-Butyl Ether

µg/L = micrograms per liter

Table 5
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
10/28/15-10/29/15

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
WB-1	NT	NT	NT	NT	NT	NT
WB-2	NT	NT	NT	NT	NT	NT
WB-3	0	0.1	20.8	0	0	0
WB-4	Damaged					
WB-5	0	0.1	21.0	0	0	0
WB-6	Damaged					
WB-7	Damaged					
WB-8	0	0.1	21.1	0	0	0
WB-12	0	1.3	19.3	0	0	0
WB-13	NT	NT	NT	NT	NT	NT
WB-14	0	0.4	19.5	0	0	0
WB-15	0	0.8	19.2	0	0	0
EPL-1	0	0.3	20.2	0	0	0
EPL-2	0	0.7	19.4	0	0	0
EPL-3	0	3.0	17.8	0	0	0
EPL-4	0	5.5	15.5	0	0	0
EPL-5	0	6.4	13.5	0	0	0
ENE-1	0	0.5	21.1	0	0	0

Table 5
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
10/28/15-10/29/15

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MG1	0	5.1	14.1	0	0	0
MG2	0	4.7	14.3	0	0	0
MG3	0	2.1	17.8	0	0	0
MG4	0	2.7	19.8	0	0	0
MG5	0	2.2	18.1	0	0	0
MPL2	0	3.5	16.7	0	0	0
MPL3	0	8.6	11.5	0	0	0
MPL5	0	9.7	8.7	0	0	0
MPL6	0	11.7	9.1	0	0	0
MPL7	0	10.9	10.7	0	0	0
MPL8	0	4.8	14.5	0	0	0
Remedial Action Work Plan Action Levels	0.5%	0.1% (1,000 PPM)	NA	9 PPM	5 PPM	5 PPM

Sampled by: Kristen Audette, Miguel Cardozo

Weather Conditions: 10/28/15-Rainy, 55F 10/29/15-Warm, 68F

Sampling Equipment: Landtec GEM 5000 Plus, MiniRae 2000 PID

Figures

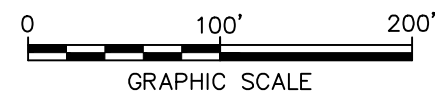
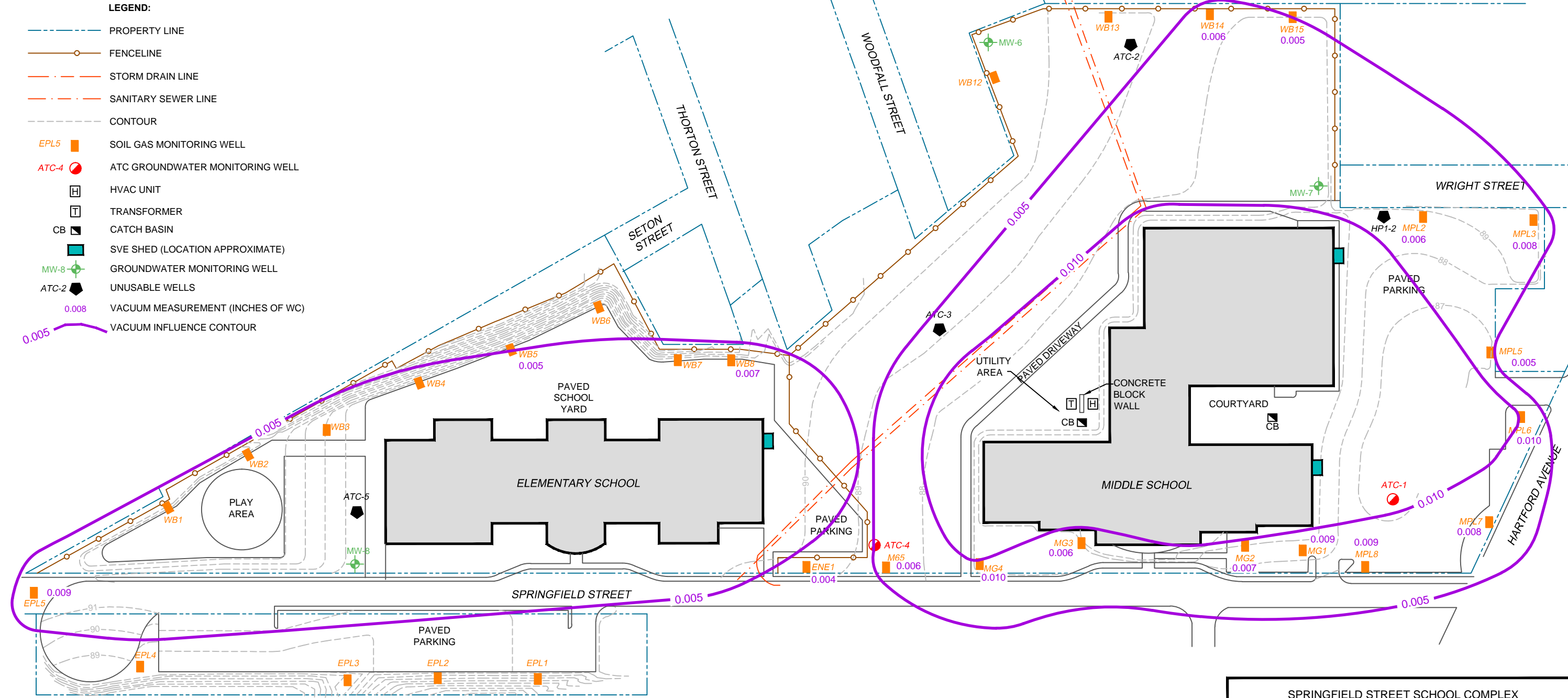
NOTES:

THE FOLLOWING MAP IS REFERENCED: ELEMENTARY & MIDDLE SCHOOLS, PROVIDENCE RHODE ISLAND, ISSUED FOR, CITY OF PROVIDENCE, GRADING AND SAMPLING LOCATION PLAN, PREPARED BY NORTHEAST ENGINEERS & CONSULTANTS, INC., DATED MAY 19, 1999, SCALE: 1"=50'.

THIS MAP HAS BEEN DIGITIZED FROM THE ABOVE REFERENCED MAP, AND SCALE IS APPROXIMATE. FOR USE WITH LFR REPORT ONLY.



- LEGEND:**
- PROPERTY LINE
 - FENCELINE
 - STORM DRAIN LINE
 - SANITARY SEWER LINE
 - CONTOUR
 - EPL5 SOIL GAS MONITORING WELL
 - ATC-4 ATC GROUNDWATER MONITORING WELL
 - H HVAC UNIT
 - T TRANSFORMER
 - CB CATCH BASIN
 - SVE SHED (LOCATION APPROXIMATE)
 - + MW-8 GROUNDWATER MONITORING WELL
 - ATC-2 UNUSABLE WELLS
 - 0.008 VACUUM MEASUREMENT (INCHES OF WC)
 - VACUUM INFLUENCE CONTOUR



SPRINGFIELD STREET SCHOOL COMPLEX SPRINGFIELD STREET PROVIDENCE, RHODE ISLAND	
AREA OF VACUUM INFLUENCE	
ARCADIS	FIGURE 1

CITY: MANCHESTER, CT DIV/GROUP: ENVCAD DB: B. SMALL PM: TM: 11/17/2015 1:02 PM ACADVER: 19.15 (LMS TECH) PAGES/SETUP: PDF/LB PLOTSTYLETABLE: ... PLOTTED: 11/17/2015 1:02 PM BY: HALLIWELL, TRISH G:\ENVCAD\ACT\W\K012152\00110000\1\WK0121520011.dwg LAYOUT: 1 SAVED: 11/17/2015 1:02 PM

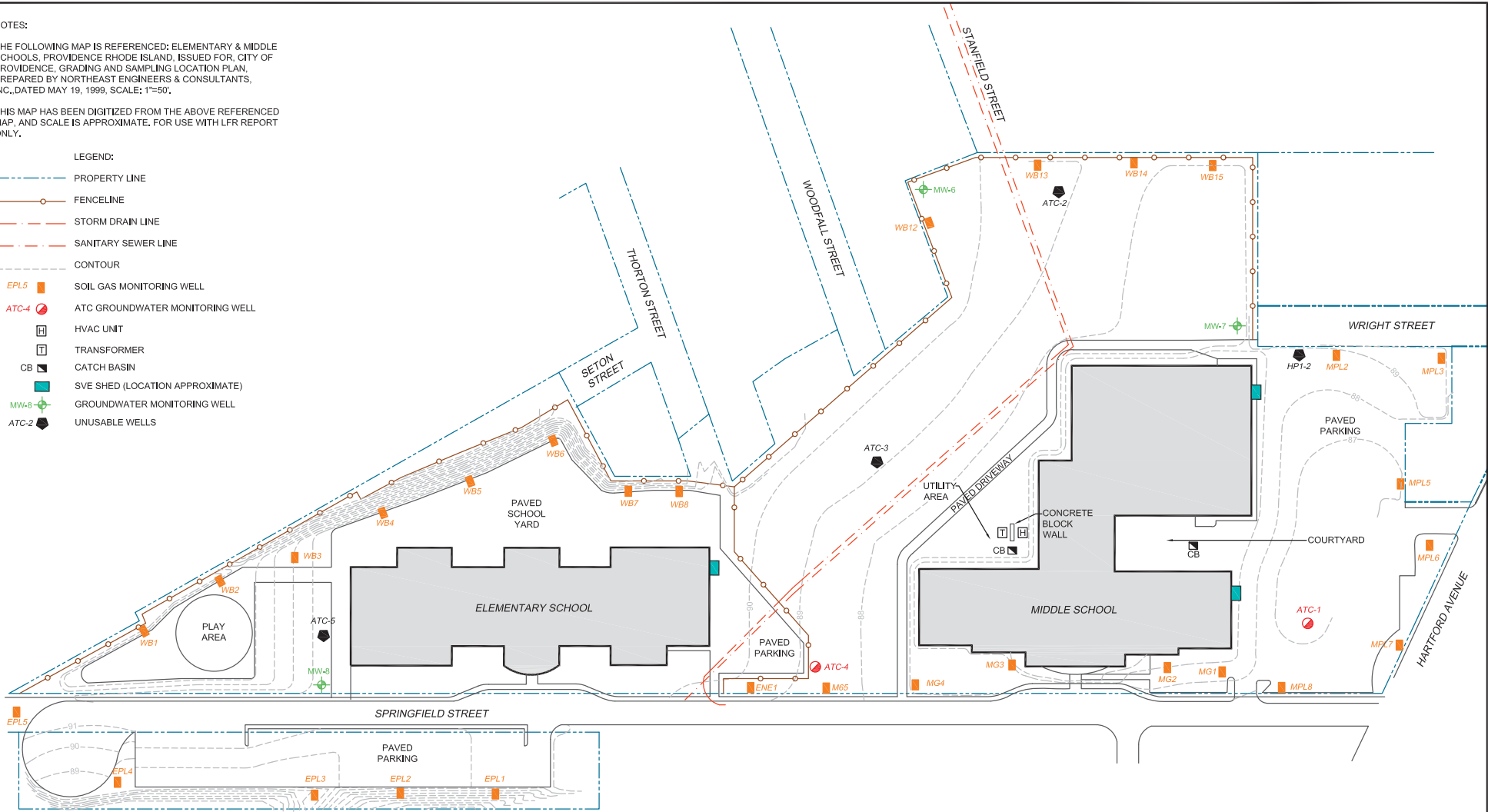
NOTES:

THE FOLLOWING MAP IS REFERENCED: ELEMENTARY & MIDDLE SCHOOLS, PROVIDENCE RHODE ISLAND, ISSUED FOR, CITY OF PROVIDENCE, GRADING AND SAMPLING LOCATION PLAN, PREPARED BY NORTHEAST ENGINEERS & CONSULTANTS, INC., DATED MAY 19, 1999, SCALE: 1"=50',

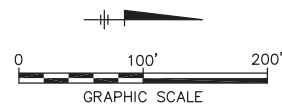
THIS MAP HAS BEEN DIGITIZED FROM THE ABOVE REFERENCED MAP, AND SCALE IS APPROXIMATE, FOR USE WITH LFR REPORT ONLY.

LEGEND:

- PROPERTY LINE
- FENCELINE
- STORM DRAIN LINE
- SANITARY SEWER LINE
- CONTOUR
- EPL5 SOIL GAS MONITORING WELL
- ATC-4 ATC GROUNDWATER MONITORING WELL
- HVAC UNIT
- TRANSFORMER
- CATCH BASIN
- SVE SHED (LOCATION APPROXIMATE)
- MW-8 GROUNDWATER MONITORING WELL
- ATC-2 UNUSABLE WELLS



SPRINGFIELD STREET SCHOOL COMPLEX SPRINGFIELD STREET PROVIDENCE, RHODE ISLAND	
SITE PLAN	
	FIGURE 2



CITY: MANCHESTER, CT | ENG: GROUP: ENVCAD | DE: B. SMALL | PK: TRK: GEN: CIVIL | ADMIN: STATE: ACT: W012152000070001 | W012152000070001 | LAYOUT: 2 | SAVER: 7/26/2011 2:12 PM | ACAD: VER: 16.15 (LMS TECH) | PAGES: SETUP | PLOT: SETUP | PLOT: 11/11/2011 8:17 AM | BY: SMALL, BRINN



Attachment A

Limitations and Service
Constraints

LIMITATIONS AND SERVICE CONSTRAINTS

GENERAL REPORTS/DOCUMENT

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ARCADIS and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that ARCADIS relied upon any information prepared by other parties not under contract to ARCADIS, ARCADIS makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when ARCADIS' investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected. ARCADIS's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in environmental investigation conclusions cannot reasonably be achieved.

ARCADIS, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.



Attachment B

Laboratory Results

November 4, 2015

Donna Pallister
Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886

Project Location: Springfield St.
Client Job Number:
Project Number: WK012152.0007
Laboratory Work Order Number: 15J1389

Enclosed are results of analyses for samples received by the laboratory on October 28, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Aaron L. Benoit", with a horizontal line extending to the right from the end of the signature.

Aaron L. Benoit
Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	5
Sample Preparation Information	9
QC Data	10
Air Toxics by EPA Compendium Methods	10
B134619	10
Flag/Qualifier Summary	12
Certifications	13
Chain of Custody/Sample Receipt	15

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Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886
ATTN: Donna Pallister

REPORT DATE: 11/4/2015

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0007

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15J1389

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Springfield St.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
28100621 MSF	15J1389-01	Air		EPA TO-14A	
28100621 ES1	15J1389-02	Air		EPA TO-14A	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-14A

Qualifications:

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Sample(s) Qualified:

Bromomethane

15J1389-01[28100621 MSF], 15J1389-02[28100621 ES1], B134619-BLK1, B134619-BS1

Chloroethane

15J1389-01[28100621 MSF], 15J1389-02[28100621 ES1], B134619-BLK1, B134619-BS1

Chloromethane

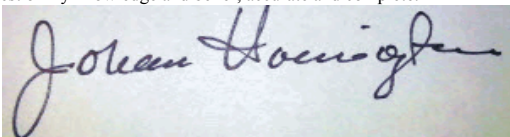
15J1389-01[28100621 MSF], 15J1389-02[28100621 ES1], B134619-BLK1, B134619-BS1

Vinyl Chloride

15J1389-01[28100621 MSF], 15J1389-02[28100621 ES1], B134619-BLK1, B134619-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington

Manager, Laboratory Reporting

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 10/28/2015
Field Sample #: 28100621 MSF
Sample ID: 15J1389-01
 Sample Matrix: Air
 Sampled: 10/27/2015 13:51

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size:
 Flow Controller ID:
 Sample Type:

Work Order: 15J1389
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Analyte	ppbv			ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag/Qual	Results	RL			
Benzene	ND	1.6		ND	5.1	2	11/3/15 22:37	CMR
Bromomethane	ND	0.10	V-05	ND	0.39	2	11/3/15 22:37	CMR
Carbon Tetrachloride	ND	0.10		ND	0.63	2	11/3/15 22:37	CMR
Chlorobenzene	ND	0.10		ND	0.46	2	11/3/15 22:37	CMR
Chloroethane	ND	0.10	V-05	ND	0.26	2	11/3/15 22:37	CMR
Chloroform	ND	0.10		ND	0.49	2	11/3/15 22:37	CMR
Chloromethane	0.25	0.20	V-05	0.51	0.41	2	11/3/15 22:37	CMR
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	11/3/15 22:37	CMR
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	11/3/15 22:37	CMR
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	11/3/15 22:37	CMR
1,4-Dichlorobenzene	0.12	0.10		0.71	0.60	2	11/3/15 22:37	CMR
Dichlorodifluoromethane (Freon 12)	0.75	0.10		3.7	0.49	2	11/3/15 22:37	CMR
1,1-Dichloroethane	ND	0.10		ND	0.40	2	11/3/15 22:37	CMR
1,2-Dichloroethane	ND	0.10		ND	0.40	2	11/3/15 22:37	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	11/3/15 22:37	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	11/3/15 22:37	CMR
1,2-Dichloropropane	ND	0.10		ND	0.46	2	11/3/15 22:37	CMR
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	11/3/15 22:37	CMR
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	11/3/15 22:37	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.56	0.10		3.9	0.70	2	11/3/15 22:37	CMR
Ethylbenzene	ND	0.10		ND	0.43	2	11/3/15 22:37	CMR
Hexachlorobutadiene	ND	0.10		ND	1.1	2	11/3/15 22:37	CMR
Methylene Chloride	6.1	1.0		21	3.5	2	11/3/15 22:37	CMR
Styrene	7.2	0.10		30	0.43	2	11/3/15 22:37	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	11/3/15 22:37	CMR
Tetrachloroethylene	0.23	0.10		1.6	0.68	2	11/3/15 22:37	CMR
Toluene	7.3	0.10		27	0.38	2	11/3/15 22:37	CMR
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	11/3/15 22:37	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	11/3/15 22:37	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	11/3/15 22:37	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	11/3/15 22:37	CMR
Trichlorofluoromethane (Freon 11)	0.48	0.10		2.7	0.56	2	11/3/15 22:37	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	11/3/15 22:37	CMR
1,2,4-Trimethylbenzene	0.25	0.10		1.2	0.49	2	11/3/15 22:37	CMR
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	11/3/15 22:37	CMR
Vinyl Chloride	ND	0.10	V-05	ND	0.26	2	11/3/15 22:37	CMR
m&p-Xylene	0.29	0.20		1.3	0.87	2	11/3/15 22:37	CMR

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ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 10/28/2015
Field Sample #: 28100621 MSF
Sample ID: 15J1389-01
 Sample Matrix: Air
 Sampled: 10/27/2015 13:51

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size:
 Flow Controller ID:
 Sample Type:

Work Order: 15J1389
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Analyte	ppbv		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	0.13	0.10		0.57	0.43	2	11/3/15	22:37	CMR
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		99.8			70-130		11/3/15	22:37	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 10/28/2015
Field Sample #: 28100621 ES1
Sample ID: 15J1389-02
 Sample Matrix: Air
 Sampled: 10/27/2015 14:21

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size:
 Flow Controller ID:
 Sample Type:

Work Order: 15J1389
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Analyte	ppbv		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Benzene	ND	2.2		ND	7.0	2.75	11/3/15 23:16	CMR	
Bromomethane	ND	0.14	V-05	ND	0.53	2.75	11/3/15 23:16	CMR	
Carbon Tetrachloride	ND	0.14		ND	0.86	2.75	11/3/15 23:16	CMR	
Chlorobenzene	ND	0.14		ND	0.63	2.75	11/3/15 23:16	CMR	
Chloroethane	ND	0.14	V-05	ND	0.36	2.75	11/3/15 23:16	CMR	
Chloroform	0.27	0.14		1.3	0.67	2.75	11/3/15 23:16	CMR	
Chloromethane	ND	0.28	V-05	ND	0.57	2.75	11/3/15 23:16	CMR	
1,2-Dibromoethane (EDB)	ND	0.14		ND	1.1	2.75	11/3/15 23:16	CMR	
1,2-Dichlorobenzene	ND	0.14		ND	0.83	2.75	11/3/15 23:16	CMR	
1,3-Dichlorobenzene	ND	0.14		ND	0.83	2.75	11/3/15 23:16	CMR	
1,4-Dichlorobenzene	0.17	0.14		1.0	0.83	2.75	11/3/15 23:16	CMR	
Dichlorodifluoromethane (Freon 12)	0.85	0.14		4.2	0.68	2.75	11/3/15 23:16	CMR	
1,1-Dichloroethane	ND	0.14		ND	0.56	2.75	11/3/15 23:16	CMR	
1,2-Dichloroethane	ND	0.14		ND	0.56	2.75	11/3/15 23:16	CMR	
1,1-Dichloroethylene	ND	0.14		ND	0.55	2.75	11/3/15 23:16	CMR	
cis-1,2-Dichloroethylene	ND	0.14		ND	0.55	2.75	11/3/15 23:16	CMR	
1,2-Dichloropropane	ND	0.14		ND	0.64	2.75	11/3/15 23:16	CMR	
cis-1,3-Dichloropropene	ND	0.14		ND	0.62	2.75	11/3/15 23:16	CMR	
trans-1,3-Dichloropropene	ND	0.14		ND	0.62	2.75	11/3/15 23:16	CMR	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.35	0.14		2.5	0.96	2.75	11/3/15 23:16	CMR	
Ethylbenzene	0.16	0.14		0.72	0.60	2.75	11/3/15 23:16	CMR	
Hexachlorobutadiene	ND	0.14		ND	1.5	2.75	11/3/15 23:16	CMR	
Methylene Chloride	8.7	1.4		30	4.8	2.75	11/3/15 23:16	CMR	
Styrene	11	0.14		46	0.59	2.75	11/3/15 23:16	CMR	
1,1,2,2-Tetrachloroethane	ND	0.14		ND	0.94	2.75	11/3/15 23:16	CMR	
Tetrachloroethylene	0.38	0.14		2.6	0.93	2.75	11/3/15 23:16	CMR	
Toluene	9.7	0.14		36	0.52	2.75	11/3/15 23:16	CMR	
1,2,4-Trichlorobenzene	ND	0.14		ND	1.0	2.75	11/3/15 23:16	CMR	
1,1,1-Trichloroethane	ND	0.14		ND	0.75	2.75	11/3/15 23:16	CMR	
1,1,2-Trichloroethane	ND	0.14		ND	0.75	2.75	11/3/15 23:16	CMR	
Trichloroethylene	ND	0.14		ND	0.74	2.75	11/3/15 23:16	CMR	
Trichlorofluoromethane (Freon 11)	0.66	0.14		3.7	0.77	2.75	11/3/15 23:16	CMR	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14		ND	1.1	2.75	11/3/15 23:16	CMR	
1,2,4-Trimethylbenzene	0.15	0.14		0.76	0.68	2.75	11/3/15 23:16	CMR	
1,3,5-Trimethylbenzene	ND	0.14		ND	0.68	2.75	11/3/15 23:16	CMR	
Vinyl Chloride	ND	0.14	V-05	ND	0.35	2.75	11/3/15 23:16	CMR	
m&p-Xylene	0.62	0.28		2.7	1.2	2.75	11/3/15 23:16	CMR	

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ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 10/28/2015
Field Sample #: 28100621 ES1
Sample ID: 15J1389-02
 Sample Matrix: Air
 Sampled: 10/27/2015 14:21

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size:
 Flow Controller ID:
 Sample Type:

Work Order: 15J1389
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Analyte	ppbv		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	0.26	0.14		1.1	0.60	2.75	11/3/15	23:16	CMR
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)	105			70-130			11/3/15	23:16	

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Sample Extraction Data

Prep Method: APH Prep-EPA TO-14A

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15J1389-01 [28100621 MSF]	B134619	1	1	N/A	1000	400	200	11/03/15
15J1389-02 [28100621 ES1]	B134619	11	0.0025	400000	1000	200	2X	11/03/15

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B134619 - APH Prep											
Blank (B134619-BLK1)											
						Prepared & Analyzed: 11/03/15					
Benzene	ND	0.54									
Bromomethane	ND	0.034									V-05
Carbon Tetrachloride	ND	0.034									
Chlorobenzene	ND	0.034									
Chloroethane	ND	0.034									V-05
Chloroform	ND	0.034									
Chloromethane	ND	0.068									V-05
1,2-Dibromoethane (EDB)	ND	0.034									
1,2-Dichlorobenzene	ND	0.034									
1,3-Dichlorobenzene	ND	0.034									
1,4-Dichlorobenzene	ND	0.034									
Dichlorodifluoromethane (Freon 12)	ND	0.034									
1,1-Dichloroethane	ND	0.034									
1,2-Dichloroethane	ND	0.034									
1,1-Dichloroethylene	ND	0.034									
cis-1,2-Dichloroethylene	ND	0.034									
1,2-Dichloropropane	ND	0.034									
cis-1,3-Dichloropropene	ND	0.034									
trans-1,3-Dichloropropene	ND	0.034									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.034									
Ethylbenzene	ND	0.034									
Hexachlorobutadiene	ND	0.034									
Methylene Chloride	ND	0.34									
Styrene	ND	0.034									
1,1,1,2-Tetrachloroethane	ND	0.034									
Tetrachloroethylene	ND	0.034									
Toluene	ND	0.034									
1,2,4-Trichlorobenzene	ND	0.034									
1,1,1-Trichloroethane	ND	0.034									
1,1,2-Trichloroethane	ND	0.034									
Trichloroethylene	ND	0.034									
Trichlorofluoromethane (Freon 11)	ND	0.034									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.034									
1,2,4-Trimethylbenzene	ND	0.034									
1,3,5-Trimethylbenzene	ND	0.034									
Vinyl Chloride	ND	0.034									V-05
m&p-Xylene	ND	0.068									
o-Xylene	ND	0.034									
Surrogate: 4-Bromofluorobenzene (1)	7.63				8.00		95.3	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B134619 - APH Prep											
LCS (B134619-BS1)											
						Prepared & Analyzed: 11/03/15					
Benzene	4.92				5.00		98.3	70-130			
Bromomethane	3.86				5.00		77.1	70-130			V-05
Carbon Tetrachloride	5.38				5.00		108	70-130			
Chlorobenzene	5.25				5.00		105	70-130			
Chloroethane	4.46				5.00		89.2	70-130			V-05
Chloroform	5.38				5.00		108	70-130			
Chloromethane	4.34				5.00		86.9	70-130			V-05
1,2-Dibromoethane (EDB)	5.37				5.00		107	70-130			
1,2-Dichlorobenzene	5.88				5.00		118	70-130			
1,3-Dichlorobenzene	5.94				5.00		119	70-130			
1,4-Dichlorobenzene	5.78				5.00		116	70-130			
Dichlorodifluoromethane (Freon 12)	6.03				5.00		121	70-130			
1,1-Dichloroethane	5.14				5.00		103	70-130			
1,2-Dichloroethane	5.30				5.00		106	70-130			
1,1-Dichloroethylene	5.23				5.00		105	70-130			
cis-1,2-Dichloroethylene	5.09				5.00		102	70-130			
1,2-Dichloropropane	5.34				5.00		107	70-130			
cis-1,3-Dichloropropene	5.52				5.00		110	70-130			
trans-1,3-Dichloropropene	5.13				5.00		103	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.52				5.00		90.5	70-130			
Ethylbenzene	5.45				5.00		109	70-130			
Hexachlorobutadiene	6.00				5.00		120	70-130			
Methylene Chloride	5.08				5.00		102	70-130			
Styrene	5.44				5.00		109	70-130			
1,1,2,2-Tetrachloroethane	6.40				5.00		128	70-130			
Tetrachloroethylene	4.99				5.00		99.8	70-130			
Toluene	5.34				5.00		107	70-130			
1,2,4-Trichlorobenzene	5.92				5.00		118	70-130			
1,1,1-Trichloroethane	5.13				5.00		103	70-130			
1,1,2-Trichloroethane	5.55				5.00		111	70-130			
Trichloroethylene	5.32				5.00		106	70-130			
Trichlorofluoromethane (Freon 11)	5.27				5.00		105	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.50				5.00		110	70-130			
1,2,4-Trimethylbenzene	5.96				5.00		119	70-130			
1,3,5-Trimethylbenzene	5.86				5.00		117	70-130			
Vinyl Chloride	4.33				5.00		86.6	70-130			V-05
m&p-Xylene	12.3				10.0		123	70-130			
o-Xylene	5.80				5.00		116	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.32				8.00		104	70-130			

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FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
No results have been blank subtracted unless specified in the case narrative section.
- V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound.
Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-14A in Air</i>	
Benzene	AIHA,FL,NY
Bromomethane	AIHA,FL,NY
Carbon Tetrachloride	AIHA,FL,NY
Chlorobenzene	AIHA,FL,NY
Chloroethane	AIHA,FL,NY
Chloroform	AIHA,FL,NY
Chloromethane	AIHA,FL,NY
1,2-Dibromoethane (EDB)	NY
1,2-Dichlorobenzene	AIHA,FL,NY
1,3-Dichlorobenzene	AIHA,FL,NY
1,4-Dichlorobenzene	AIHA,FL,NY
Dichlorodifluoromethane (Freon 12)	AIHA,FL,NY
1,1-Dichloroethane	AIHA,FL,NY
1,2-Dichloroethane	AIHA,FL,NY
1,1-Dichloroethylene	AIHA,FL,NY
cis-1,2-Dichloroethylene	AIHA,FL,NY
1,2-Dichloropropane	AIHA,FL,NY
cis-1,3-Dichloropropene	AIHA,FL,NY
trans-1,3-Dichloropropene	NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,FL,NY
Ethylbenzene	AIHA,FL,NY
Hexachlorobutadiene	AIHA,FL,NY
Methylene Chloride	AIHA,FL,NY
Styrene	AIHA,FL,NY
1,1,2,2-Tetrachloroethane	AIHA,FL,NY
Tetrachloroethylene	AIHA,FL,NY
Toluene	AIHA,FL,NY
1,2,4-Trichlorobenzene	AIHA,FL,NY
1,1,1-Trichloroethane	AIHA,FL,NY
1,1,2-Trichloroethane	AIHA,FL,NY
Trichloroethylene	AIHA,FL,NY
Trichlorofluoromethane (Freon 11)	AIHA,FL,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NY
1,2,4-Trimethylbenzene	AIHA,FL,NY
1,3,5-Trimethylbenzene	AIHA,FL,NY
Vinyl Chloride	AIHA,FL,NY
m&p-Xylene	AIHA,FL,NY
o-Xylene	AIHA,FL,NY

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
 East longmeadow, MA 01028

Page 1 of 1

Company Name: ARCADIS Telephone: 401-398-0756

Address: 270 METRO CENTER BLDG Project # WK
WARWICK, RI 02886 Client PO#

Attention: DONNA PAILISTER
 Project Location: SPRING-FIELD STREET, RI
 Sampled By: KRISTEN AUDEDE

Project Proposal Provided? (for billing purposes)
 yes no proposal date

DATA DELIVERY (check all that apply)
 FAX EMAIL WEBSITE

Fax #

Email:

Format: PDF EXCEL GIS
 OTHER

Collection

Con-Test Lab ID <small>(laboratory use only)</small>	Client Sample ID / Description	Collection		Composite	Grab	Matrix Code	Unique Data
		Beginning Date/Time	Ending Date/Time				
<u>01</u>	<u>28100621 HSF</u>	<u>10/27/13 08:00</u>	<u>10/27/13 13:51</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>02</u>	<u>28100621 ES1</u>	<u>10/27/14 20:00</u>	<u>10/27/14 21:00</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>03</u>	<u>28100621 ES2</u>	<u>10/27/14 22:00</u>	<u>10/27/14 23:00</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

Comments:

Relinquished by: (signature) [Signature] Date/Time: 10/28/15
 Received by: (signature) [Signature] Date/Time: 10/28/15 18:30
 Relinquished by: (signature) [Signature] Date/Time: 10/28/15 18:30
 Received by: (signature) [Signature] Date/Time: 10/28/15 18:30

Turnaround ^{††}
 7-Day
 10-Day
 Other
 RUSH [†]
 124-Hr 148-Hr
 172-Hr 14-Day
[†] Require lab approval

Detection Limit Requirements
 Massachusetts:
 Connecticut:
 Other:

Is your project MCP or RCP?
 MCP Form Required
 RCP Form Required
 MA State DW Form Required PWSID #



NELAC & AIHA-LAP, LLC
 Accredited
 WBE/DBE Certified

# of Containers	** Preservation	*** Container Code
<u>3</u>		
<u>0</u>		
<u>7</u>		

ANALYSIS REQUESTED

Disolved Metals
 Field Filtered
 Lab to Filter

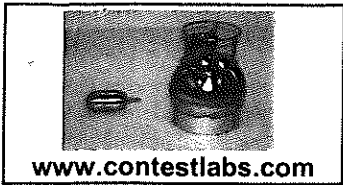
*** Cont. Code:
 A=amber glass
 G=glass
 P=plastic
 ST=sterile
 V=vial
 S=summa can
 T=tetlar bag
 O=Other

** preservation
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium bisulfate
 X = Na hydroxide
 T = Na thiosulfate
 O = Other

* Matrix Code:
 GW= groundwater
 WW= wastewater
 DW= drinking water
 A = air
 S = soil/solid
 SL = sludge
 O = other

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

URNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.
 PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT



39 Spruce St.
 East Longmeadow, MA.
 01028
 P: 413-525-2332
 F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: Arcadis RECEIVED BY: KB DATE: 10/28/15

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 2) Does the chain agree with the samples? Yes No
 If not, explain:
- 3) Are all the samples in good condition? Yes No
 If not, explain:
- 4) Are there any samples "On Hold"? Yes No Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
 Who was notified _____ Date _____ Time _____

6) Location where samples are stored: Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

7) Number of cans Individually Certified or Batch Certified? _____

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)		
Tedlar Bags	3	
TO-17 Tubes		
Regulators		
Restrictors		
Hg/Hopcalite Tube (NIOSH 6009)		
(TO-4A/ TO-10A/TO-13) PUFs		
PCB Florisil Tubes (NIOSH 5503)		
Air cassette		
PM 2.5/PM 10		
TO-11A Cartridges		
Other		

Unused Summas/PUF Media:

Unused Regulators:

- 1) Was all media (used & unused) checked into the WASP?
- 2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments:

Login Sample Receipt Checklist
(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False)		Comment
	T	F/NA	
1) The coolers'/boxes' custody seal, if present, is intact.		NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.		F	
4) Cooler Temperature is acceptable.		(KB) F NA	
5) Cooler Temperature is recorded.		F NA	
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) Samples are received within Holding Time.	T		
10) Sample containers have legible labels.	T		
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T		
12) Sample collection date/times are provided.	T		
13) Appropriate sample/media containers are used.	T		
14) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
15) Trip blanks provided if applicable.		NA	

Doc #278 Rev. 5 October 2014

Who notified of False statements?

Log-In Technician Initials: KB

Date/Time:

Date/Time:
10/28/15
18:30

November 12, 2015

Donna Pallister
Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886

Project Location: Springfield St.
Client Job Number:
Project Number: WK012152.0007
Laboratory Work Order Number: 15K0217

Enclosed are results of analyses for samples received by the laboratory on November 5, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Aaron L. Benoit
Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	5
Sample Preparation Information	7
QC Data	8
Air Toxics by EPA Compendium Methods	8
B134985	8
Flag/Qualifier Summary	10
Certifications	11
Chain of Custody/Sample Receipt	13

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Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886
ATTN: Donna Pallister

REPORT DATE: 11/12/2015

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0007

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15K0217

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Springfield St.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ES-2	15K0217-01	Air		EPA TO-14A	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-14A**Qualifications:****L-03**

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**Bromomethane**

15K0217-01[ES-2], B134985-BLK1, B134985-BS1

V-05

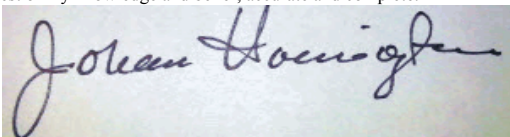
Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**Styrene**

15K0217-01[ES-2], B134985-BLK1, B134985-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 11/5/2015
Field Sample #: ES-2
Sample ID: 15K0217-01
 Sample Matrix: Air
 Sampled: 11/5/2015 08:36

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size:
 Flow Controller ID:
 Sample Type:

Work Order: 15K0217
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Analyte	ppbv		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Benzene	0.11	0.10		0.35	0.32	2	11/7/15 2:07		CMR
Bromomethane	ND	0.10	L-03	ND	0.39	2	11/7/15 2:07		CMR
Carbon Tetrachloride	ND	0.10		ND	0.63	2	11/7/15 2:07		CMR
Chlorobenzene	ND	0.10		ND	0.46	2	11/7/15 2:07		CMR
Chloroethane	ND	0.10		ND	0.26	2	11/7/15 2:07		CMR
Chloroform	0.32	0.10		1.6	0.49	2	11/7/15 2:07		CMR
Chloromethane	ND	0.20		ND	0.41	2	11/7/15 2:07		CMR
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	11/7/15 2:07		CMR
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	11/7/15 2:07		CMR
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	11/7/15 2:07		CMR
1,4-Dichlorobenzene	0.15	0.10		0.89	0.60	2	11/7/15 2:07		CMR
Dichlorodifluoromethane (Freon 12)	1.4	0.10		7.0	0.49	2	11/7/15 2:07		CMR
1,1-Dichloroethane	ND	0.10		ND	0.40	2	11/7/15 2:07		CMR
1,2-Dichloroethane	ND	0.10		ND	0.40	2	11/7/15 2:07		CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	11/7/15 2:07		CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	11/7/15 2:07		CMR
1,2-Dichloropropane	ND	0.10		ND	0.46	2	11/7/15 2:07		CMR
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	11/7/15 2:07		CMR
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	11/7/15 2:07		CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.80	0.10		5.6	0.70	2	11/7/15 2:07		CMR
Ethylbenzene	0.14	0.10		0.59	0.43	2	11/7/15 2:07		CMR
Hexachlorobutadiene	ND	0.10		ND	1.1	2	11/7/15 2:07		CMR
Methylene Chloride	2.4	1.0		8.4	3.5	2	11/7/15 2:07		CMR
Styrene	6.3	0.10	V-05	27	0.43	2	11/7/15 2:07		CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	11/7/15 2:07		CMR
Tetrachloroethylene	4.8	0.10		32	0.68	2	11/7/15 2:07		CMR
Toluene	6.7	0.10		25	0.38	2	11/7/15 2:07		CMR
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	11/7/15 2:07		CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	11/7/15 2:07		CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	11/7/15 2:07		CMR
Trichloroethylene	0.77	0.10		4.2	0.54	2	11/7/15 2:07		CMR
Trichlorofluoromethane (Freon 11)	0.61	0.10		3.4	0.56	2	11/7/15 2:07		CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	11/7/15 2:07		CMR
1,2,4-Trimethylbenzene	0.39	0.10		1.9	0.49	2	11/7/15 2:07		CMR
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	11/7/15 2:07		CMR
Vinyl Chloride	ND	0.10		ND	0.26	2	11/7/15 2:07		CMR
m&p-Xylene	0.55	0.20		2.4	0.87	2	11/7/15 2:07		CMR

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 11/5/2015
Field Sample #: ES-2
Sample ID: 15K0217-01
 Sample Matrix: Air
 Sampled: 11/5/2015 08:36

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size:
 Flow Controller ID:
 Sample Type:

Work Order: 15K0217
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Analyte	ppbv		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	0.20	0.10		0.89	0.43	2	11/7/15	2:07	CMR

Surrogates	% Recovery		% REC Limits		Date/Time	
4-Bromofluorobenzene (1)	105		70-130		11/7/15 2:07	

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Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-14A

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15K0217-01 [ES-2]	B134985	1	1	N/A	1000	400	200	11/06/15

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B134985 - TO-15 Prep											
Blank (B134985-BLK1)											
						Prepared & Analyzed: 11/06/15					
Benzene	ND	0.050									
Bromomethane	ND	0.050									L-03
Carbon Tetrachloride	ND	0.050									
Chlorobenzene	ND	0.050									
Chloroethane	ND	0.050									
Chloroform	ND	0.050									
Chloromethane	ND	0.10									
1,2-Dibromoethane (EDB)	ND	0.050									
1,2-Dichlorobenzene	ND	0.050									
1,3-Dichlorobenzene	ND	0.050									
1,4-Dichlorobenzene	ND	0.050									
Dichlorodifluoromethane (Freon 12)	ND	0.050									
1,1-Dichloroethane	ND	0.050									
1,2-Dichloroethane	ND	0.050									
1,1-Dichloroethylene	ND	0.050									
cis-1,2-Dichloroethylene	ND	0.050									
1,2-Dichloropropane	ND	0.050									
cis-1,3-Dichloropropene	ND	0.050									
trans-1,3-Dichloropropene	ND	0.050									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050									
Ethylbenzene	ND	0.050									
Hexachlorobutadiene	ND	0.050									
Methylene Chloride	ND	0.50									
Styrene	ND	0.050									V-05
1,1,1,2-Tetrachloroethane	ND	0.050									
Tetrachloroethylene	ND	0.050									
Toluene	ND	0.050									
1,2,4-Trichlorobenzene	ND	0.050									
1,1,1-Trichloroethane	ND	0.050									
1,1,2-Trichloroethane	ND	0.050									
Trichloroethylene	ND	0.050									
Trichlorofluoromethane (Freon 11)	ND	0.050									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.050									
1,2,4-Trimethylbenzene	ND	0.050									
1,3,5-Trimethylbenzene	ND	0.050									
Vinyl Chloride	ND	0.050									
m&p-Xylene	ND	0.10									
o-Xylene	ND	0.050									
Surrogate: 4-Bromofluorobenzene (1)	8.41				8.00		105	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B134985 - TO-15 Prep											
LCS (B134985-BS1)											
						Prepared & Analyzed: 11/06/15					
Benzene	3.88				5.00		77.7	70-130			
Bromomethane	3.36				5.00		67.2 *	70-130			L-03
Carbon Tetrachloride	4.44				5.00		88.7	70-130			
Chlorobenzene	4.15				5.00		83.0	70-130			
Chloroethane	3.80				5.00		76.0	70-130			
Chloroform	4.77				5.00		95.4	70-130			
Chloromethane	3.74				5.00		74.8	70-130			
1,2-Dibromoethane (EDB)	4.56				5.00		91.2	70-130			
1,2-Dichlorobenzene	4.95				5.00		99.0	70-130			
1,3-Dichlorobenzene	4.72				5.00		94.4	70-130			
1,4-Dichlorobenzene	4.71				5.00		94.2	70-130			
Dichlorodifluoromethane (Freon 12)	5.08				5.00		102	70-130			
1,1-Dichloroethane	4.57				5.00		91.4	70-130			
1,2-Dichloroethane	4.60				5.00		91.9	70-130			
1,1-Dichloroethylene	4.66				5.00		93.2	70-130			
cis-1,2-Dichloroethylene	4.56				5.00		91.1	70-130			
1,2-Dichloropropane	3.92				5.00		78.4	70-130			
cis-1,3-Dichloropropene	4.59				5.00		91.8	70-130			
trans-1,3-Dichloropropene	4.35				5.00		86.9	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	3.86				5.00		77.2	70-130			
Ethylbenzene	4.62				5.00		92.4	70-130			
Hexachlorobutadiene	5.39				5.00		108	70-130			
Methylene Chloride	4.18				5.00		83.6	70-130			
Styrene	4.49				5.00		89.7	70-130			V-05
1,1,2,2-Tetrachloroethane	4.80				5.00		95.9	70-130			
Tetrachloroethylene	4.58				5.00		91.5	70-130			
Toluene	4.52				5.00		90.3	70-130			
1,2,4-Trichlorobenzene	5.47				5.00		109	70-130			
1,1,1-Trichloroethane	4.31				5.00		86.2	70-130			
1,1,2-Trichloroethane	4.71				5.00		94.2	70-130			
Trichloroethylene	4.31				5.00		86.3	70-130			
Trichlorofluoromethane (Freon 11)	4.78				5.00		95.6	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.12				5.00		102	70-130			
1,2,4-Trimethylbenzene	4.83				5.00		96.7	70-130			
1,3,5-Trimethylbenzene	4.63				5.00		92.5	70-130			
Vinyl Chloride	3.75				5.00		74.9	70-130			
m&p-Xylene	9.83				10.0		98.3	70-130			
o-Xylene	4.49				5.00		89.9	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.71				8.00		109	70-130			

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FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
No results have been blank subtracted unless specified in the case narrative section.
- L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-14A in Air</i>	
Benzene	AIHA,FL,NY
Bromomethane	AIHA,FL,NY
Carbon Tetrachloride	AIHA,FL,NY
Chlorobenzene	AIHA,FL,NY
Chloroethane	AIHA,FL,NY
Chloroform	AIHA,FL,NY
Chloromethane	AIHA,FL,NY
1,2-Dibromoethane (EDB)	NY
1,2-Dichlorobenzene	AIHA,FL,NY
1,3-Dichlorobenzene	AIHA,FL,NY
1,4-Dichlorobenzene	AIHA,FL,NY
Dichlorodifluoromethane (Freon 12)	AIHA,FL,NY
1,1-Dichloroethane	AIHA,FL,NY
1,2-Dichloroethane	AIHA,FL,NY
1,1-Dichloroethylene	AIHA,FL,NY
cis-1,2-Dichloroethylene	AIHA,FL,NY
1,2-Dichloropropane	AIHA,FL,NY
cis-1,3-Dichloropropene	AIHA,FL,NY
trans-1,3-Dichloropropene	NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,FL,NY
Ethylbenzene	AIHA,FL,NY
Hexachlorobutadiene	AIHA,FL,NY
Methylene Chloride	AIHA,FL,NY
Styrene	AIHA,FL,NY
1,1,2,2-Tetrachloroethane	AIHA,FL,NY
Tetrachloroethylene	AIHA,FL,NY
Toluene	AIHA,FL,NY
1,2,4-Trichlorobenzene	AIHA,FL,NY
1,1,1-Trichloroethane	AIHA,FL,NY
1,1,2-Trichloroethane	AIHA,FL,NY
Trichloroethylene	AIHA,FL,NY
Trichlorofluoromethane (Freon 11)	AIHA,FL,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NY
1,2,4-Trimethylbenzene	AIHA,FL,NY
1,3,5-Trimethylbenzene	AIHA,FL,NY
Vinyl Chloride	AIHA,FL,NY
m&p-Xylene	AIHA,FL,NY
o-Xylene	AIHA,FL,NY

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
 East longmeadow, MA 01028

Page 1 of 1

Company Name: ARCADIS Telephone: 401-298-0770

Address: 250 METRO CENTER BLDG Project # WK02152

SUITE 250 WARKWY, RI 02886

Attention: DOUMA PALISTER

Project Location: SPRINGFIELD STREET, PROVIDENCE

Sampled By: KRISTEN ADETTE

Project Proposal Provided? (for billing purposes)
 Yes No proposal date

DATA DELIVERY (check all that apply)

FAX EMAIL WEBSITE

Fax #

Email:

Format:

PDF EXCEL OGIS

OTHER

"Enhanced Data Package"

Collection Beginning Date/Time Ending Date/Time

Composite Grab Matrix Conc Code

11-5-15 11-5-15 0335/836 ✓

61-01 ✓

ANALYSIS REQUESTED

Dissolved Metals
 Field Filtered
 Lab to Filter

***Cont. Code:

A=amber glass
 G=glass
 P=plastic
 ST=sterile
 V= vial
 S=summa can
 T=tetralar bag
 O=Other

**Preservation

I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium bisulfate
 X = Na hydroxide
 T = Na thiosulfate
 O = Other

*Matrix Code:

GW= groundwater
 WW= wastewater
 DW= drinking water
 A = air
 S = soil/solid
 SL = sludge
 O = other

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

Is your project MCP or RCP?

MCP Form Required
 RCP Form Required
 MA State DW Form Required PWSID #



Accredited
 NELAC & AIHA-LAP, LLC

WBE/DBE Certified

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

Turnaround

7-Day

10-Day

Other 5

RUSH [†]

24-Hr 48-Hr

72-Hr 14-Day

[†] Require lab approval

Con-Test Lab ID (laboratory use only)

Client Sample ID / Description

ES-2

Beginning Date/Time

Ending Date/Time

11-5-15 0335/836

Comments:

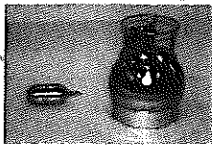
Relinquished by: (signature) KRISTEN ADETTE Date/Time: 11/5/15 1500

Received by: (signature) DOUMA PALISTER Date/Time: 11/5/15 1500

Relinquished by: (signature) KRISTEN ADETTE Date/Time: 11/5/15 1745

Received by: (signature) DOUMA PALISTER Date/Time: 11/5/15 1745

URNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT. PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT



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Table of Contents
 39 Spruce St.
 East Longmeadow, MA.
 01028
 P: 413-525-2332
 F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: Arcadis RECEIVED BY: VP DATE: 11/8/15

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 2) Does the chain agree with the samples? Yes No
If not, explain:
- 3) Are all the samples in good condition? Yes No
If not, explain:
- 4) Are there any samples "On Hold"? Yes No Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
Who was notified _____ Date _____ Time _____

6) Location where samples are stored:

7) Number of cans Individually Certified or Batch Certified? _____

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)		
Tedlar Bags	1	
TO-17 Tubes		
Regulators		
Restrictors		
Hg/Hopcalite Tube (NIOSH 6009)		
(TO-4A/ TO-10A/TO-13) PUFs		
PCB Florisil Tubes (NIOSH 5503)		
Air cassette		
PM 2.5/PM 10		
TO-11A Cartridges		
Other		

Unused Summas/PUF Media:

Unused Regulators:

- 1) Was all media (used & unused) checked into the WASP?
- 2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

<u>Question</u>	<u>Answer (True/False)</u>		<u>Comment</u>
	T	F/NA	
1) The coolers'/boxes' custody seal, if present, is intact.		NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	T		
4) Cooler Temperature is acceptable.	T		
5) Cooler Temperature is recorded.	T		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) Samples are received within Holding Time.	T		
10) Sample containers have legible labels.	T		
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T		
12) Sample collection date/times are provided.	T		
13) Appropriate sample/media containers are used.	T		
14) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
15) Trip blanks provided if applicable.		NA	

Who notified of False statements?
 Log-In Technician Initials: VR

Date/Time:
 Date/Time: 11/5/15
 1748

November 4, 2015

Donna Pallister
Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886

Project Location: Springfield St., Providence, RI
Client Job Number:
Project Number: WK012152.0010
Laboratory Work Order Number: 15J1412

Enclosed are results of analyses for samples received by the laboratory on October 29, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Aaron L. Benoit", with a horizontal line extending to the right from the end of the signature.

Aaron L. Benoit
Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	5
15J1412-01	5
15J1412-02	7
15J1412-03	9
15J1412-04	11
Sample Preparation Information	13
QC Data	14
Volatile Organic Compounds by GC/MS	14
B134470	14
Flag/Qualifier Summary	19
Certifications	20
Chain of Custody/Sample Receipt	22

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886
ATTN: Donna Pallister

REPORT DATE: 11/4/2015

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0010

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15J1412

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Springfield St., Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-7	15J1412-01	Ground Water		SW-846 8260C	
ATC-1	15J1412-02	Ground Water		SW-846 8260C	
ATC-4	15J1412-03	Ground Water		SW-846 8260C	
Trip Blank	15J1412-04	Trip Blank Water		SW-846 8260C	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260C**Qualifications:****L-04**

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**Acetone**

15J1412-01[MW-7], 15J1412-02[ATC-1], 15J1412-03[ATC-4], 15J1412-04[Trip Blank], B134470-BLK1, B134470-BS1, B134470-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**2,2-Dichloropropane**

15J1412-01[MW-7], 15J1412-02[ATC-1], 15J1412-03[ATC-4], 15J1412-04[Trip Blank], B134470-BLK1, B134470-BS1, B134470-BSD1

Acetone

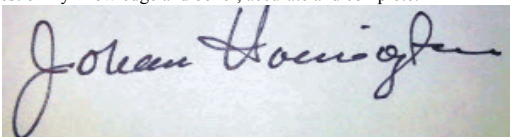
15J1412-01[MW-7], 15J1412-02[ATC-1], 15J1412-03[ATC-4], 15J1412-04[Trip Blank], B134470-BLK1, B134470-BS1, B134470-BSD1

Bromoform

15J1412-01[MW-7], 15J1412-02[ATC-1], 15J1412-03[ATC-4], 15J1412-04[Trip Blank], B134470-BLK1, B134470-BS1, B134470-BSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: MW-7

Sampled: 10/28/2015 10:17

Sample ID: 15J1412-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1	L-04, V-05	SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Bromomethane	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: MW-7

Sampled: 10/28/2015 10:17

Sample ID: 15J1412-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 2:35	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	105	70-130	11/4/15 2:35
Toluene-d8	102	70-130	11/4/15 2:35
4-Bromofluorobenzene	93.5	70-130	11/4/15 2:35

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: ATC-1

Sampled: 10/28/2015 09:20

Sample ID: 15J1412-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1	L-04, V-05	SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Bromomethane	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: ATC-1

Sampled: 10/28/2015 09:20

Sample ID: 15J1412-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:01	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	107	70-130	11/4/15 3:01
Toluene-d8	102	70-130	11/4/15 3:01
4-Bromofluorobenzene	92.7	70-130	11/4/15 3:01

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: ATC-4

Sampled: 10/28/2015 14:08

Sample ID: 15J1412-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1	L-04, V-05	SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Bromomethane	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Chlorobenzene	1.2	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,4-Dichlorobenzene	1.8	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: ATC-4

Sampled: 10/28/2015 14:08

Sample ID: 15J1412-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 3:27	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	103	70-130	11/4/15 3:27
Toluene-d8	99.7	70-130	11/4/15 3:27
4-Bromofluorobenzene	92.4	70-130	11/4/15 3:27

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: Trip Blank

Sampled: 10/28/2015 00:00

Sample ID: 15J1412-04

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1	L-04, V-05	SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Bromomethane	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 15J1412

Date Received: 10/29/2015

Field Sample #: Trip Blank

Sampled: 10/28/2015 00:00

Sample ID: 15J1412-04

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	11/3/15	11/4/15 0:25	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	103	70-130	11/4/15 0:25
Toluene-d8	102	70-130	11/4/15 0:25
4-Bromofluorobenzene	92.4	70-130	11/4/15 0:25

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15J1412-01 [MW-7]	B134470	5	5.00	11/03/15
15J1412-02 [ATC-1]	B134470	5	5.00	11/03/15
15J1412-03 [ATC-4]	B134470	5	5.00	11/03/15
15J1412-04 [Trip Blank]	B134470	5	5.00	11/03/15

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B134470 - SW-846 5030B

Blank (B134470-BLK1)

Prepared & Analyzed: 11/03/15

Acetone	ND	50	µg/L							L-04, V-05
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							V-05
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	4.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							V-05
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.50	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B134470 - SW-846 5030B

Blank (B134470-BLK1)

Prepared & Analyzed: 11/03/15

Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	25.9		µg/L	25.0		104	70-130			
Surrogate: Toluene-d8	25.3		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	23.1		µg/L	25.0		92.2	70-130			

LCS (B134470-BS1)

Prepared & Analyzed: 11/03/15

Acetone	53.9	50	µg/L	100		53.9 *	70-160			L-04, V-05 †
Acrylonitrile	8.93	5.0	µg/L	10.0		89.3	70-130			
tert-Amyl Methyl Ether (TAME)	9.07	0.50	µg/L	10.0		90.7	70-130			
Benzene	10.9	1.0	µg/L	10.0		109	70-130			
Bromobenzene	10.5	1.0	µg/L	10.0		105	70-130			
Bromochloromethane	10.8	1.0	µg/L	10.0		108	70-130			
Bromodichloromethane	9.21	0.50	µg/L	10.0		92.1	70-130			
Bromoform	7.81	1.0	µg/L	10.0		78.1	70-130			V-05
Bromomethane	6.10	2.0	µg/L	10.0		61.0	40-160			†
2-Butanone (MEK)	83.2	20	µg/L	100		83.2	40-160			†
tert-Butyl Alcohol (TBA)	74.3	20	µg/L	100		74.3	40-160			†
n-Butylbenzene	10.5	1.0	µg/L	10.0		105	70-130			
sec-Butylbenzene	10.8	1.0	µg/L	10.0		108	70-130			
tert-Butylbenzene	10.3	1.0	µg/L	10.0		103	70-130			
tert-Butyl Ethyl Ether (TBEE)	9.76	0.50	µg/L	10.0		97.6	70-130			
Carbon Disulfide	10.3	4.0	µg/L	10.0		103	70-130			
Carbon Tetrachloride	10.4	5.0	µg/L	10.0		104	70-130			
Chlorobenzene	10.8	1.0	µg/L	10.0		108	70-130			
Chlorodibromomethane	8.50	0.50	µg/L	10.0		85.0	70-130			
Chloroethane	9.43	2.0	µg/L	10.0		94.3	70-130			
Chloroform	10.6	2.0	µg/L	10.0		106	70-130			
Chloromethane	8.49	2.0	µg/L	10.0		84.9	40-160			†
2-Chlorotoluene	10.4	1.0	µg/L	10.0		104	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B134470 - SW-846 5030B										
LCS (B134470-BS1)										
Prepared & Analyzed: 11/03/15										
4-Chlorotoluene	10.2	1.0	µg/L	10.0		102	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	7.92	5.0	µg/L	10.0		79.2	70-130			
1,2-Dibromoethane (EDB)	10.2	0.50	µg/L	10.0		102	70-130			
Dibromomethane	11.0	1.0	µg/L	10.0		110	70-130			
1,2-Dichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130			
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130			
1,4-Dichlorobenzene	10.4	1.0	µg/L	10.0		104	70-130			
trans-1,4-Dichloro-2-butene	8.95	2.0	µg/L	10.0		89.5	70-130			
Dichlorodifluoromethane (Freon 12)	5.37	2.0	µg/L	10.0		53.7	40-160			†
1,1-Dichloroethane	11.4	1.0	µg/L	10.0		114	70-130			
1,2-Dichloroethane	11.3	1.0	µg/L	10.0		113	70-130			
1,1-Dichloroethylene	11.8	1.0	µg/L	10.0		118	70-130			
cis-1,2-Dichloroethylene	10.2	1.0	µg/L	10.0		102	70-130			
trans-1,2-Dichloroethylene	11.0	1.0	µg/L	10.0		110	70-130			
1,2-Dichloropropane	11.0	1.0	µg/L	10.0		110	70-130			
1,3-Dichloropropane	10.4	0.50	µg/L	10.0		104	70-130			
2,2-Dichloropropane	7.44	1.0	µg/L	10.0		74.4	40-130			V-05 †
1,1-Dichloropropene	11.4	2.0	µg/L	10.0		114	70-130			
cis-1,3-Dichloropropene	9.67	0.50	µg/L	10.0		96.7	70-130			
trans-1,3-Dichloropropene	9.99	0.50	µg/L	10.0		99.9	70-130			
Diethyl Ether	10.5	2.0	µg/L	10.0		105	70-130			
Diisopropyl Ether (DIPE)	9.54	0.50	µg/L	10.0		95.4	70-130			
1,4-Dioxane	89.2	50	µg/L	100		89.2	40-130			†
Ethylbenzene	10.7	1.0	µg/L	10.0		107	70-130			
Hexachlorobutadiene	9.30	0.50	µg/L	10.0		93.0	70-130			
2-Hexanone (MBK)	84.0	10	µg/L	100		84.0	70-160			†
Isopropylbenzene (Cumene)	10.5	1.0	µg/L	10.0		105	70-130			
p-Isopropyltoluene (p-Cymene)	10.8	1.0	µg/L	10.0		108	70-130			
Methyl tert-Butyl Ether (MTBE)	9.17	1.0	µg/L	10.0		91.7	70-130			
Methylene Chloride	10.4	5.0	µg/L	10.0		104	70-130			
4-Methyl-2-pentanone (MIBK)	87.4	10	µg/L	100		87.4	70-160			†
Naphthalene	10.1	2.0	µg/L	10.0		101	40-130			†
n-Propylbenzene	10.7	1.0	µg/L	10.0		107	70-130			
Styrene	9.93	1.0	µg/L	10.0		99.3	70-130			
1,1,1,2-Tetrachloroethane	9.77	1.0	µg/L	10.0		97.7	70-130			
1,1,2,2-Tetrachloroethane	8.65	0.50	µg/L	10.0		86.5	70-130			
Tetrachloroethylene	10.6	1.0	µg/L	10.0		106	70-130			
Tetrahydrofuran	9.13	10	µg/L	10.0		91.3	70-130			
Toluene	10.9	1.0	µg/L	10.0		109	70-130			
1,2,3-Trichlorobenzene	9.95	5.0	µg/L	10.0		99.5	70-130			
1,2,4-Trichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130			
1,3,5-Trichlorobenzene	9.20	1.0	µg/L	10.0		92.0	70-130			
1,1,1-Trichloroethane	10.6	1.0	µg/L	10.0		106	70-130			
1,1,2-Trichloroethane	10.2	1.0	µg/L	10.0		102	70-130			
Trichloroethylene	11.6	1.0	µg/L	10.0		116	70-130			
Trichlorofluoromethane (Freon 11)	9.98	2.0	µg/L	10.0		99.8	70-130			
1,2,3-Trichloropropane	8.49	2.0	µg/L	10.0		84.9	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11.2	1.0	µg/L	10.0		112	70-130			
1,2,4-Trimethylbenzene	10.2	1.0	µg/L	10.0		102	70-130			
1,3,5-Trimethylbenzene	10.3	1.0	µg/L	10.0		103	70-130			
Vinyl Chloride	8.82	2.0	µg/L	10.0		88.2	40-160			†

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B134470 - SW-846 5030B

LCS (B134470-BS1)

Prepared & Analyzed: 11/03/15

m+p Xylene	21.2	2.0	µg/L	20.0		106	70-130			
o-Xylene	10.1	1.0	µg/L	10.0		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	25.2		µg/L	25.0		101	70-130			
Surrogate: Toluene-d8	26.0		µg/L	25.0		104	70-130			
Surrogate: 4-Bromofluorobenzene	24.0		µg/L	25.0		96.0	70-130			

LCS Dup (B134470-BSD1)

Prepared & Analyzed: 11/03/15

Acetone	49.0	50	µg/L	100		49.0 *	70-160	9.58	25	L-04, V-05 †
Acrylonitrile	9.57	5.0	µg/L	10.0		95.7	70-130	6.92	25	
tert-Amyl Methyl Ether (TAME)	9.32	0.50	µg/L	10.0		93.2	70-130	2.72	25	
Benzene	10.7	1.0	µg/L	10.0		107	70-130	1.94	25	
Bromobenzene	10.5	1.0	µg/L	10.0		105	70-130	0.0953	25	
Bromochloromethane	11.0	1.0	µg/L	10.0		110	70-130	1.74	25	
Bromodichloromethane	9.28	0.50	µg/L	10.0		92.8	70-130	0.757	25	
Bromoform	7.91	1.0	µg/L	10.0		79.1	70-130	1.27	25	V-05
Bromomethane	6.53	2.0	µg/L	10.0		65.3	40-160	6.81	25	†
2-Butanone (MEK)	82.9	20	µg/L	100		82.9	40-160	0.337	25	†
tert-Butyl Alcohol (TBA)	72.6	20	µg/L	100		72.6	40-160	2.42	25	†
n-Butylbenzene	10.8	1.0	µg/L	10.0		108	70-130	2.71	25	
sec-Butylbenzene	11.4	1.0	µg/L	10.0		114	70-130	5.49	25	
tert-Butylbenzene	10.6	1.0	µg/L	10.0		106	70-130	2.39	25	
tert-Butyl Ethyl Ether (TBEE)	9.78	0.50	µg/L	10.0		97.8	70-130	0.205	25	
Carbon Disulfide	9.48	4.0	µg/L	10.0		94.8	70-130	8.48	25	
Carbon Tetrachloride	10.3	5.0	µg/L	10.0		103	70-130	0.967	25	
Chlorobenzene	11.2	1.0	µg/L	10.0		112	70-130	4.10	25	
Chlorodibromomethane	8.57	0.50	µg/L	10.0		85.7	70-130	0.820	25	
Chloroethane	9.56	2.0	µg/L	10.0		95.6	70-130	1.37	25	
Chloroform	10.4	2.0	µg/L	10.0		104	70-130	1.62	25	
Chloromethane	9.01	2.0	µg/L	10.0		90.1	40-160	5.94	25	†
2-Chlorotoluene	10.7	1.0	µg/L	10.0		107	70-130	2.93	25	
4-Chlorotoluene	10.1	1.0	µg/L	10.0		101	70-130	0.885	25	
1,2-Dibromo-3-chloropropane (DBCP)	8.17	5.0	µg/L	10.0		81.7	70-130	3.11	25	
1,2-Dibromoethane (EDB)	10.1	0.50	µg/L	10.0		101	70-130	1.58	25	
Dibromomethane	10.8	1.0	µg/L	10.0		108	70-130	2.48	25	
1,2-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130	4.65	25	
1,3-Dichlorobenzene	10.8	1.0	µg/L	10.0		108	70-130	1.78	25	
1,4-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130	2.58	25	
trans-1,4-Dichloro-2-butene	8.67	2.0	µg/L	10.0		86.7	70-130	3.18	25	
Dichlorodifluoromethane (Freon 12)	5.26	2.0	µg/L	10.0		52.6	40-160	2.07	25	†
1,1-Dichloroethane	11.1	1.0	µg/L	10.0		111	70-130	1.87	25	
1,2-Dichloroethane	11.0	1.0	µg/L	10.0		110	70-130	2.78	25	
1,1-Dichloroethylene	11.7	1.0	µg/L	10.0		117	70-130	0.851	25	
cis-1,2-Dichloroethylene	10.4	1.0	µg/L	10.0		104	70-130	2.23	25	
trans-1,2-Dichloroethylene	11.4	1.0	µg/L	10.0		114	70-130	2.86	25	
1,2-Dichloropropane	11.0	1.0	µg/L	10.0		110	70-130	0.274	25	
1,3-Dichloropropane	10.5	0.50	µg/L	10.0		105	70-130	0.669	25	
2,2-Dichloropropane	6.96	1.0	µg/L	10.0		69.6	40-130	6.67	25	V-05 †
1,1-Dichloropropene	10.8	2.0	µg/L	10.0		108	70-130	5.94	25	
cis-1,3-Dichloropropene	9.45	0.50	µg/L	10.0		94.5	70-130	2.30	25	
trans-1,3-Dichloropropene	9.96	0.50	µg/L	10.0		99.6	70-130	0.301	25	
Diethyl Ether	9.95	2.0	µg/L	10.0		99.5	70-130	5.28	25	
Diisopropyl Ether (DIPE)	9.52	0.50	µg/L	10.0		95.2	70-130	0.210	25	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B134470 - SW-846 5030B

LCS Dup (B134470-BSD1)

Prepared & Analyzed: 11/03/15

1,4-Dioxane	88.3	50	µg/L	100		88.3	40-130	0.991	50	† ‡
Ethylbenzene	10.8	1.0	µg/L	10.0		108	70-130	0.745	25	
Hexachlorobutadiene	9.65	0.50	µg/L	10.0		96.5	70-130	3.69	25	
2-Hexanone (MBK)	83.0	10	µg/L	100		83.0	70-160	1.27	25	†
Isopropylbenzene (Cumene)	11.0	1.0	µg/L	10.0		110	70-130	4.10	25	
p-Isopropyltoluene (p-Cymene)	11.0	1.0	µg/L	10.0		110	70-130	2.11	25	
Methyl tert-Butyl Ether (MTBE)	9.22	1.0	µg/L	10.0		92.2	70-130	0.544	25	
Methylene Chloride	10.6	5.0	µg/L	10.0		106	70-130	2.47	25	
4-Methyl-2-pentanone (MIBK)	87.1	10	µg/L	100		87.1	70-160	0.367	25	†
Naphthalene	10.6	2.0	µg/L	10.0		106	40-130	4.82	25	†
n-Propylbenzene	10.9	1.0	µg/L	10.0		109	70-130	2.12	25	
Styrene	10.2	1.0	µg/L	10.0		102	70-130	2.68	25	
1,1,1,2-Tetrachloroethane	9.99	1.0	µg/L	10.0		99.9	70-130	2.23	25	
1,1,2,2-Tetrachloroethane	8.69	0.50	µg/L	10.0		86.9	70-130	0.461	25	
Tetrachloroethylene	10.5	1.0	µg/L	10.0		105	70-130	0.285	25	
Tetrahydrofuran	9.88	10	µg/L	10.0		98.8	70-130	7.89	25	
Toluene	10.9	1.0	µg/L	10.0		109	70-130	0.550	25	
1,2,3-Trichlorobenzene	10.4	5.0	µg/L	10.0		104	70-130	4.90	25	
1,2,4-Trichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	0.886	25	
1,3,5-Trichlorobenzene	9.74	1.0	µg/L	10.0		97.4	70-130	5.70	25	
1,1,1-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130	3.35	25	
1,1,2-Trichloroethane	10.2	1.0	µg/L	10.0		102	70-130	0.0976	25	
Trichloroethylene	11.4	1.0	µg/L	10.0		114	70-130	1.73	25	
Trichlorofluoromethane (Freon 11)	9.73	2.0	µg/L	10.0		97.3	70-130	2.54	25	
1,2,3-Trichloropropane	8.54	2.0	µg/L	10.0		85.4	70-130	0.587	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11.0	1.0	µg/L	10.0		110	70-130	1.99	25	
1,2,4-Trimethylbenzene	10.4	1.0	µg/L	10.0		104	70-130	2.03	25	
1,3,5-Trimethylbenzene	10.2	1.0	µg/L	10.0		102	70-130	0.391	25	
Vinyl Chloride	8.65	2.0	µg/L	10.0		86.5	40-160	1.95	25	†
m+p Xylene	21.0	2.0	µg/L	20.0		105	70-130	1.09	25	
o-Xylene	10.4	1.0	µg/L	10.0		104	70-130	2.34	25	
Surrogate: 1,2-Dichloroethane-d4	25.8		µg/L	25.0		103	70-130			
Surrogate: Toluene-d8	25.8		µg/L	25.0		103	70-130			
Surrogate: 4-Bromofluorobenzene	25.2		µg/L	25.0		101	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
No results have been blank subtracted unless specified in the case narrative section.
- L-04 Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
Acetone	CT,NY,ME,NH,VA
Acrylonitrile	CT,NY,ME,NH,VA
tert-Amyl Methyl Ether (TAME)	NY,ME,NH,VA
Benzene	CT,NY,ME,NH,VA
Bromochloromethane	NY,ME,NH,VA
Bromodichloromethane	CT,NY,ME,NH,VA
Bromoform	CT,NY,ME,NH,VA
Bromomethane	CT,NY,ME,NH,VA
2-Butanone (MEK)	CT,NY,ME,NH,VA
tert-Butyl Alcohol (TBA)	NY,ME,NH,VA
n-Butylbenzene	NY,ME,VA
sec-Butylbenzene	NY,ME,VA
tert-Butylbenzene	NY,ME,VA
tert-Butyl Ethyl Ether (TBEE)	NY,ME,NH,VA
Carbon Disulfide	CT,NY,ME,NH,VA
Carbon Tetrachloride	CT,NY,ME,NH,VA
Chlorobenzene	CT,NY,ME,NH,VA
Chlorodibromomethane	CT,NY,ME,NH,VA
Chloroethane	CT,NY,ME,NH,VA
Chloroform	CT,NY,ME,NH,VA
Chloromethane	CT,NY,ME,NH,VA
2-Chlorotoluene	NY,ME,NH,VA
4-Chlorotoluene	NY,ME,NH,VA
Dibromomethane	NY,ME,NH,VA
1,2-Dichlorobenzene	CT,NY,ME,NH,VA
1,3-Dichlorobenzene	CT,NY,ME,NH,VA
1,4-Dichlorobenzene	CT,NY,ME,NH,VA
trans-1,4-Dichloro-2-butene	NY,ME,NH,VA
Dichlorodifluoromethane (Freon 12)	NY,ME,NH,VA
1,1-Dichloroethane	CT,NY,ME,NH,VA
1,2-Dichloroethane	CT,NY,ME,NH,VA
1,1-Dichloroethylene	CT,NY,ME,NH,VA
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NY,ME,NH,VA
1,2-Dichloropropane	CT,NY,ME,NH,VA
1,3-Dichloropropane	NY,ME,VA
2,2-Dichloropropane	NY,ME,NH,VA
1,1-Dichloropropene	NY,ME,NH,VA
cis-1,3-Dichloropropene	CT,NY,ME,NH,VA
trans-1,3-Dichloropropene	CT,NY,ME,NH,VA
Diisopropyl Ether (DIPE)	NY,ME,NH,VA
Ethylbenzene	CT,NY,ME,NH,VA
Hexachlorobutadiene	CT,NY,ME,NH,VA
2-Hexanone (MBK)	CT,NY,ME,NH,VA
Isopropylbenzene (Cumene)	NY,ME,VA
p-Isopropyltoluene (p-Cymene)	CT,NY,ME,NH,VA
Methyl tert-Butyl Ether (MTBE)	CT,NY,ME,NH,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
Methylene Chloride	CT,NY,ME,NH,VA
4-Methyl-2-pentanone (MIBK)	CT,NY,ME,NH,VA
Naphthalene	NY,ME,NH,VA
n-Propylbenzene	CT,NY,ME,NH,VA
Styrene	CT,NY,ME,NH,VA
1,1,1,2-Tetrachloroethane	CT,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	CT,NY,ME,NH,VA
Tetrachloroethylene	CT,NY,ME,NH,VA
Toluene	CT,NY,ME,NH,VA
1,2,3-Trichlorobenzene	NY,ME,NH,VA
1,2,4-Trichlorobenzene	CT,NY,ME,NH,VA
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,NY,ME,NH,VA
1,1,2-Trichloroethane	CT,NY,ME,NH,VA
Trichloroethylene	CT,NY,ME,NH,VA
Trichlorofluoromethane (Freon 11)	CT,NY,ME,NH,VA
1,2,3-Trichloropropane	NY,ME,NH,VA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NY,VA
1,2,4-Trimethylbenzene	NY,ME,VA
1,3,5-Trimethylbenzene	NY,ME,VA
Vinyl Chloride	CT,NY,ME,NH,VA
m+p Xylene	CT,NY,ME,NH,VA
o-Xylene	CT,NY,ME,NH,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
 East Longmeadow, MA 01028

Company Name: ALCADIS
 Address: 300 Metro Center Blvd
 Warwick, RI

Telephone: 401-298-0750

Project #: WK01215Z.0010

Client PO#

Attention: Donna Pallister
 Project Location: PROVIDENCE, RI
 Sampled By: Krishna Audette

DATA DELIVERY (check all that apply)
 FAX EMAIL WEBSITE
 Email: Donna.Pallister@alcadis.com
 Format: PDF EXCEL OGIS

Project Proposal Provided? (for billing purposes)
 yes no

Con-Test Lab ID <small>(laboratory use only)</small>	Client Sample ID / Description	Collection		Composite	Grab	Matrix Conc Code
		Beginning Date/Time	Ending Date/Time			
01	MW-7	10-28-15	10-17	X	GW	U
02	ATC-1	10-28-15	09-20	X	GW	U
03	ATC-4	10-27-15	14-08	X	GW	U
04	Trip Blank	10-28-15	-			

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

 H - High, M - Medium, L - Low, C - Clean, U - Unknown

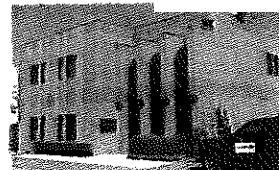
Relinquished by: (signature) *Donna Pallister* Date/Time: 10-29-15 13:15
 Received by: (signature) *Donna Pallister* Date/Time: 10-29-15 13:15
 Relinquished by: (signature) *Donna Pallister* Date/Time: 10-29-15 17:15
 Received by: (signature) *Donna Pallister* Date/Time: 10-29-15 17:15

Is your project MCP or RCP?
 MCP Form Required
 RCP Form Required
 MA State DW Form Required PWSID # _____

Detection Limit Requirements
 Masachusetts: _____
 Connecticut: _____
 Other: _____

Accredited
 NELAC & AIHA-LAP, LLC
 WBE/DBE Certified

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
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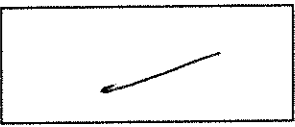
Sample Receipt Checklist

CLIENT NAME: Arcadis RECEIVED BY: KB DATE: 10/29/15

- 1) Was the chain(s) of custody relinquished and signed? (Yes) No No CoC Included
- 2) Does the chain agree with the samples? (Yes) No
 If not, explain: _____
- 3) Are all the samples in good condition? (Yes) No
 If not, explain: _____

4) How were the samples received:
 On Ice Direct from Sampling Ambient In Cooler(s)
 Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A
 Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.8°

- 5) Are there Dissolved samples for the lab to filter? Yes (No)
 Who was notified _____ Date _____ Time _____
- 6) Are there any RUSH or SHORT HOLDING TIME samples? Yes (No)
 Who was notified _____ Date _____ Time _____

7) Location where samples are stored:  Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

- 8) Do all samples have the proper Acid pH: Yes No (N/A) _____
- 9) Do all samples have the proper Base pH: Yes No (N/A) _____
- 10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No (N/A)

Containers received at Con-Test			
	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below	11	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments: _____

40 mL vials: # HCl <u>11</u> # Methanol _____ # Bisulfate _____ # DI Water _____ # Thiosulfate _____ Unpreserved _____	Time and Date Frozen: _____
--	-----------------------------

Log-In Sample Receipt Checklist
 (Rejection Criteria Listing - Using Sample Acceptance Policy)
 Any False statement will be brought to the attention of Client

Question	Answer (True/False)	Comment
	T/F/NA	
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	A, T	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Doc #277 Rev. 4 August 2013

Who notified of False statements?
 Log-In Technician Initials: KB

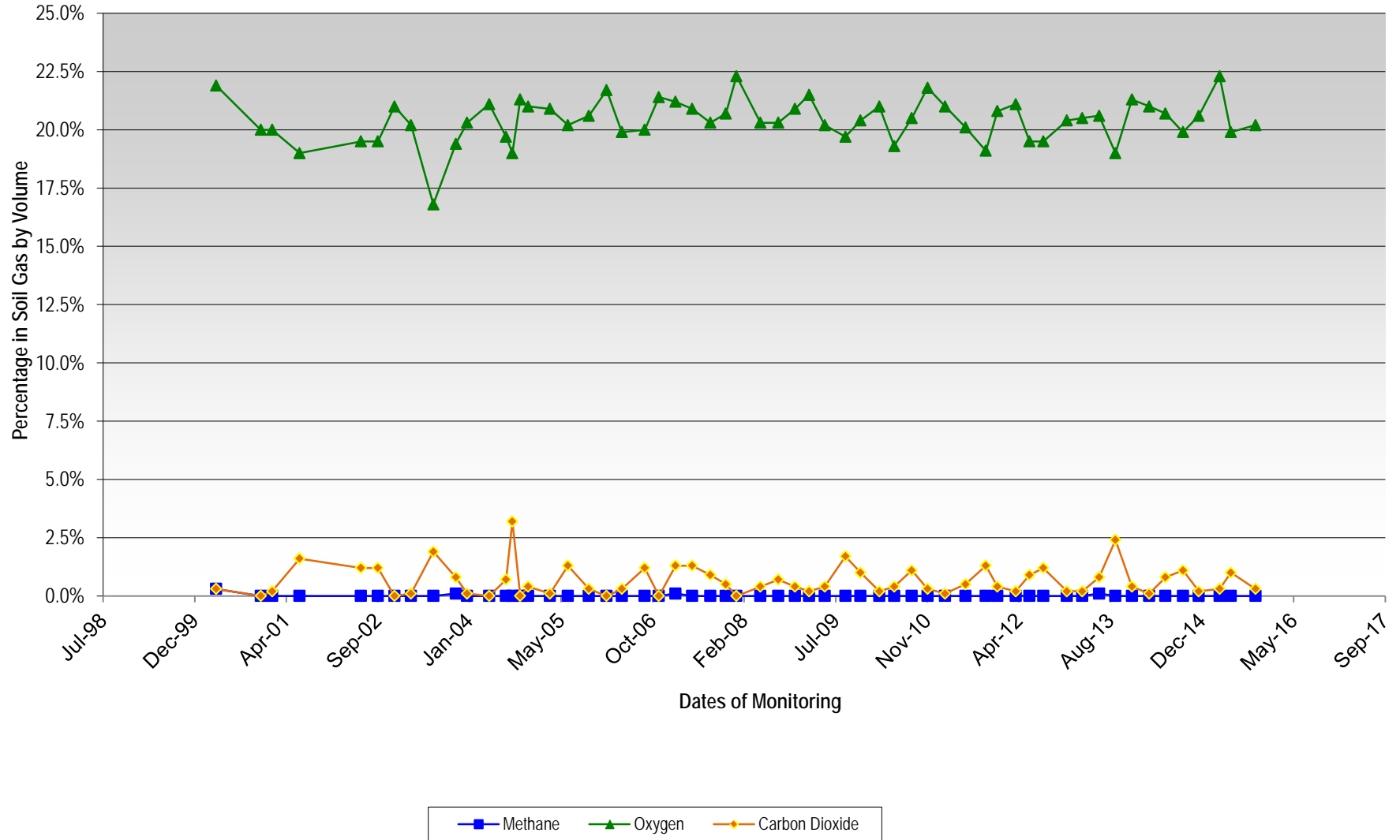
Date/Time: 10/29/15
 Date/Time: 17:15



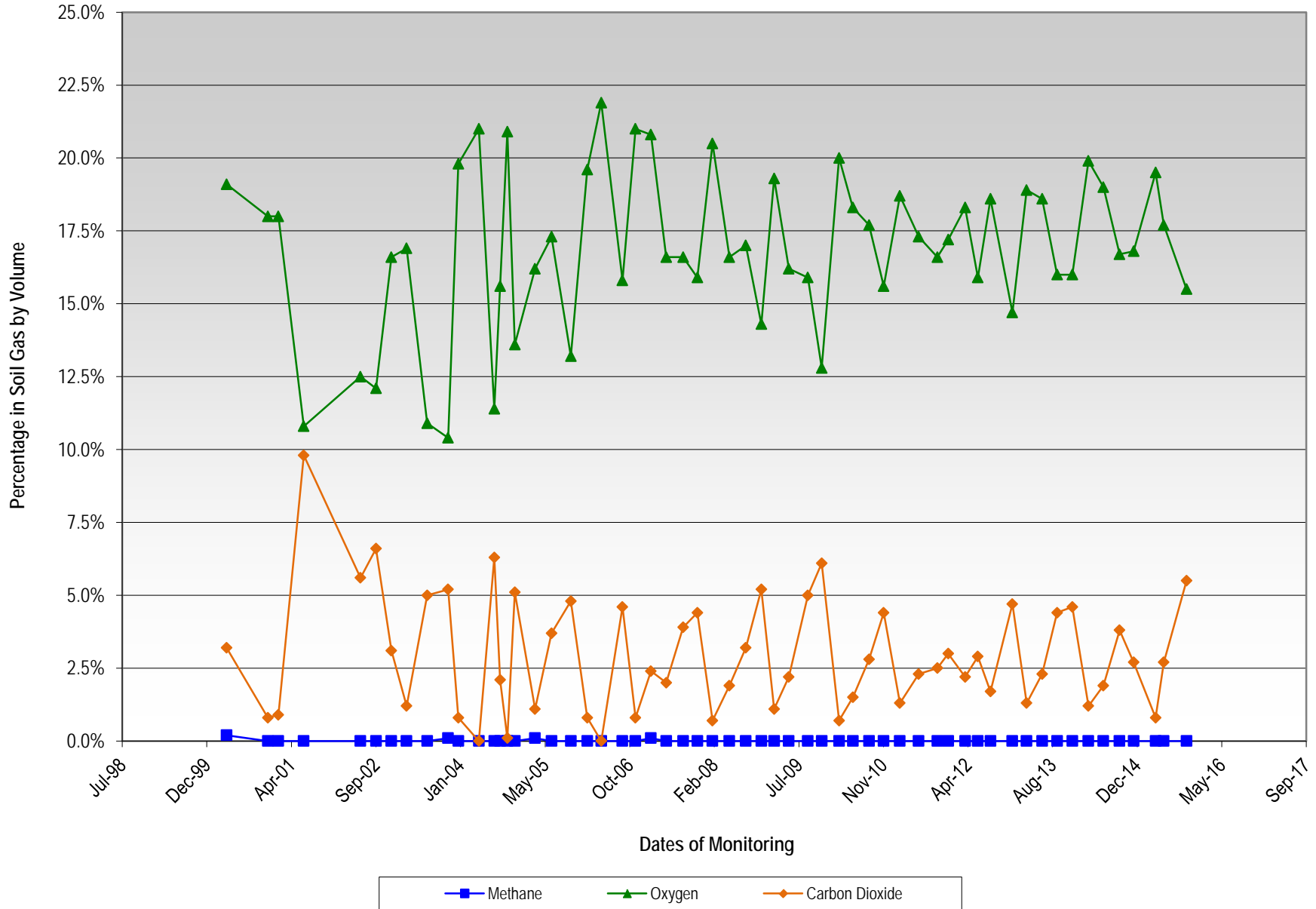
Attachment C

Soil Gas Parameter
Graphs

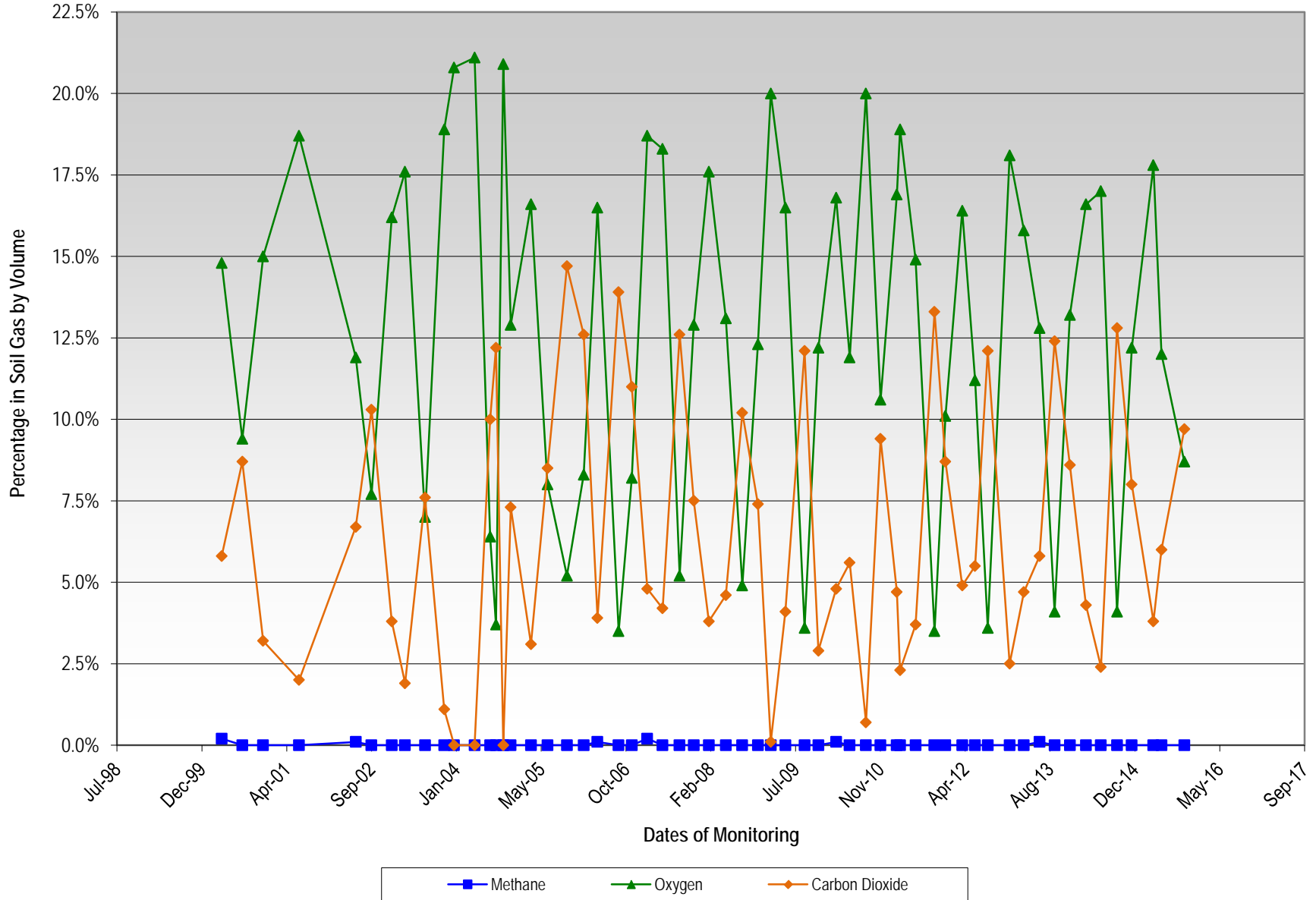
Soil Gas Well EPL1
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



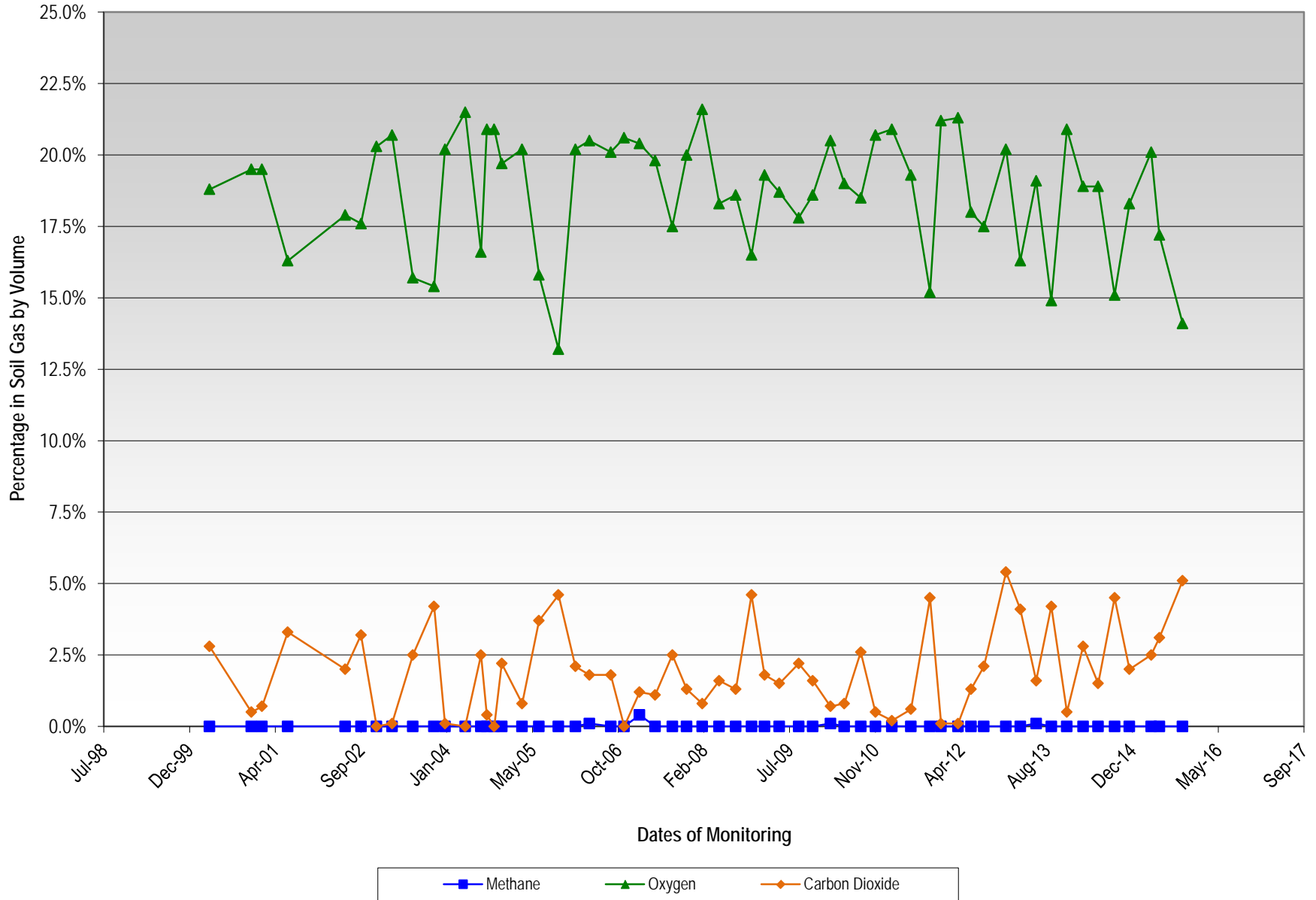
Soil Gas Well EPL4
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



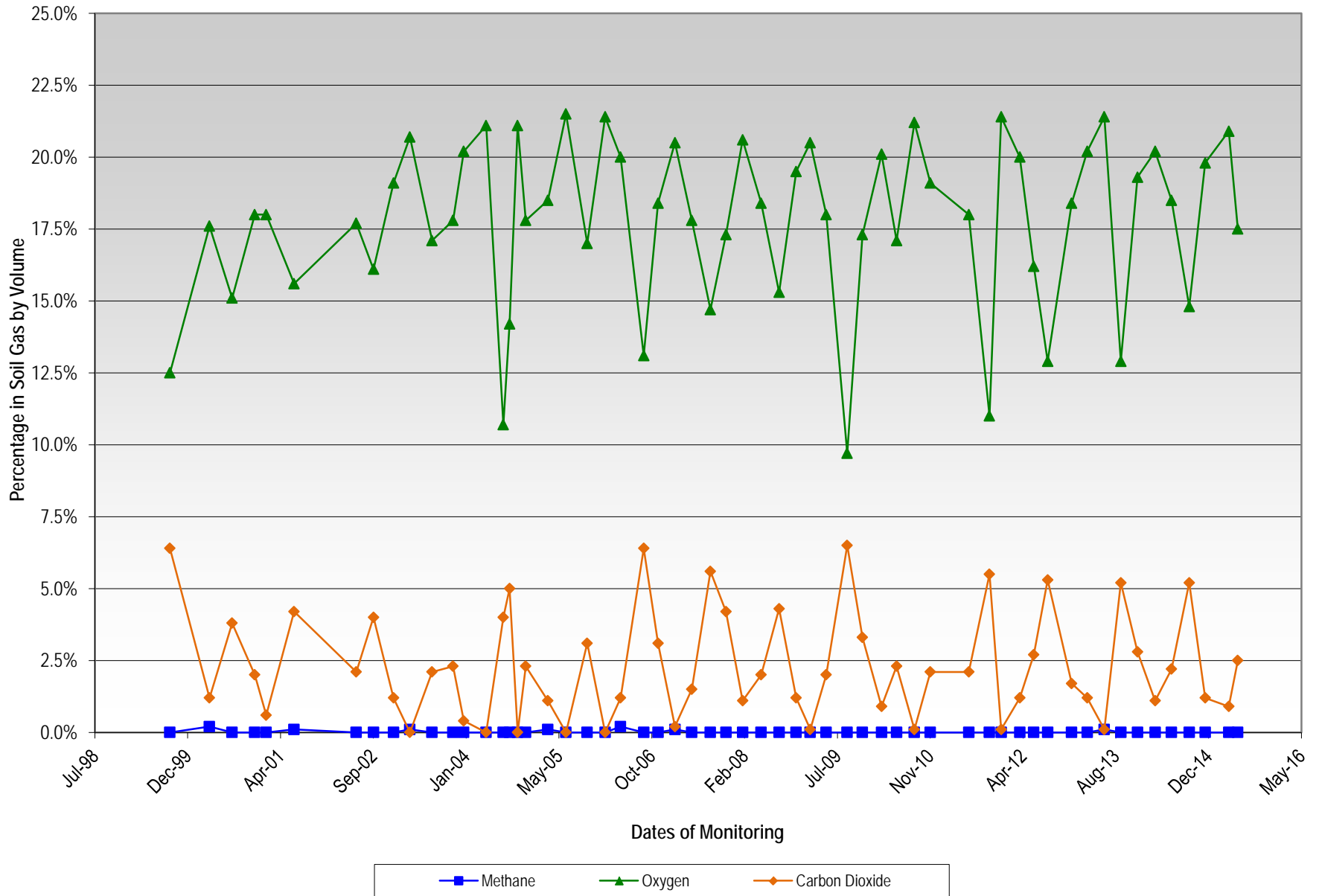
Soil Gas Well MPL5
 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
 Springfield Street School Complex
 Providence, Rhode Island



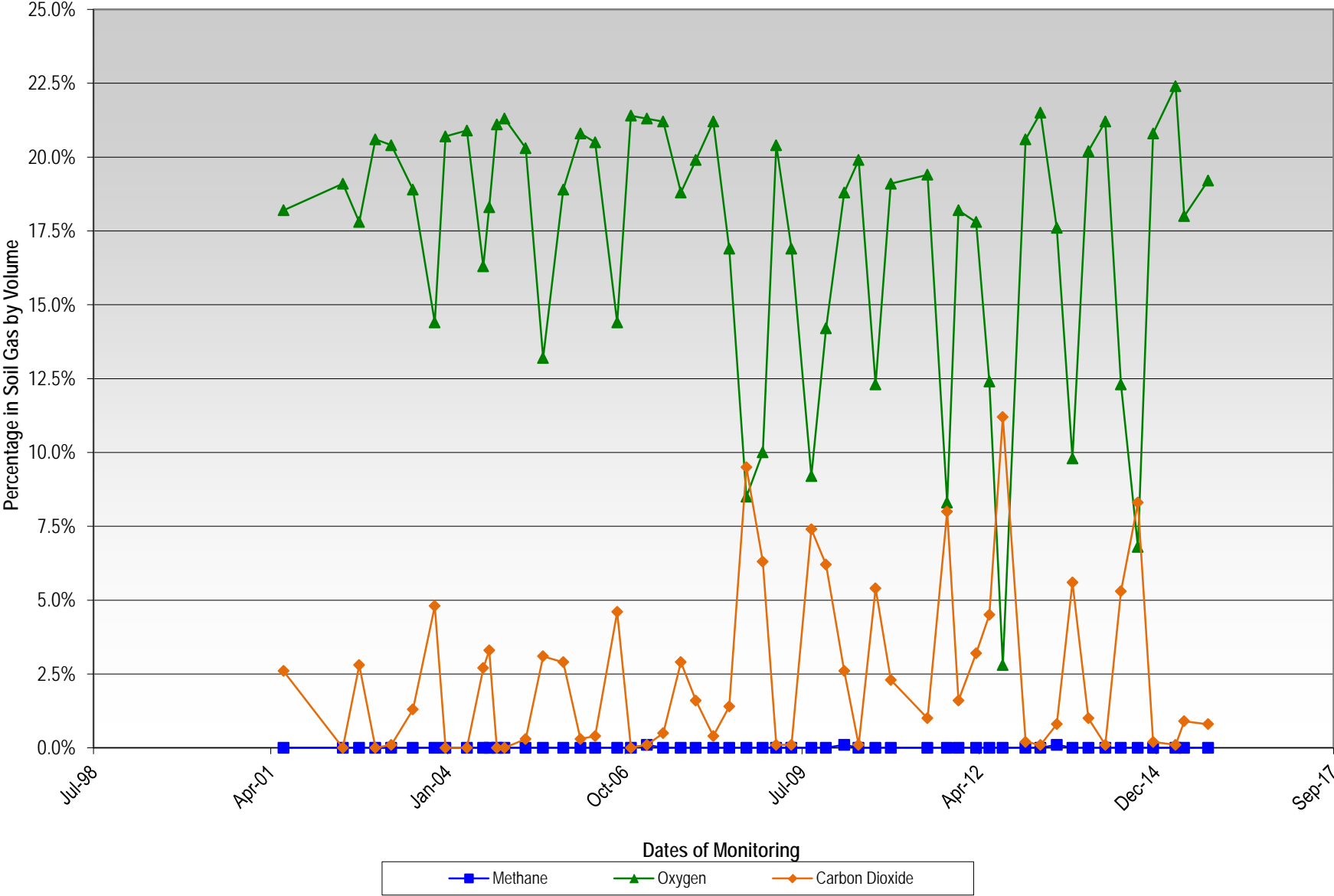
Soil Gas Well MG2
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



Soil Gas Well WB1
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



Soil Gas Well WB15
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



Soil Gas MPL 7
Fluctuation in Methane, Oxygen, Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island

